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The Journal

of the

Louisiana State Medical Society

Vol. 107, No. 9
$4.00 Per Annum, 35c Per Copy

SEPTEMBER, 1955

Published Monthly
1430 Tulane Avenue, New Orleans 12, La.

OTOLARYNGOLOGIC PROBLEMS OF GENERAL PRACTICE *

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Since I am among the large number of realists in my specialty who understand that otolaryngology is necessarily the concern of the general practitioner as well as of the otolaryngologist, I make no apology for offering a few practical suggestions in this overlapping field. Before I pass on to them, however, it might be well to recall the place which otolaryngology occupies in general practice.

In 1950, Lierle [1] found, in a questionnaire sent to 574 general practitioners in Iowa, that otolaryngology occupied from 1.5 per cent to 80 per cent of their practice over a selected period. The average was 22 per cent. Other studies have shown much the same range and substantially the same average.

It is both interesting and distressing that the graduates of our medical schools were very poorly trained for this responsibility in the past, and are none too well trained for it at the present time. In 1952, McCaskey [2] questioned the presidents of 34 local chapters of the American Academy of General Practice concerning the training they had received in otolaryngology and received from them replies not calculated to induce any sense of complacency in the medical schools of the country. Most of those who replied to the questionnaire had learned normal regional anatomy by reading about it. Not more than a quarter had examined normal subjects before they were required to diagnose abnormal or pathologic conditions. The majority had never seen a normal larynx, or, if they had, they did not know what they were looking at. Some of them had been taught didactically the normal landmarks of the membrana tympani but they had been given few opportunities to observe them. Only half had been taught to make a complete examination of the normal nasal cavity. It is not surprising, in view of these lacks, that few of these physicians felt that they had received sufficient training in physical diagnosis and that none of them had been taught adequate hearing tests.

Yet these replies should not have surprised anyone. As McCaskey [3] had pointed out in 1948, in a report to the American Academy of Ophthalmology and Otolaryngology, the allotment for didactic teaching in eighty-seven medical schools in the United States and Canada at that time did not exceed sixty-eight hours for the total course in any school, that in some schools the allotment was only five hours, and that the average was twenty hours. In 1953, in a second, similar investigation, Hoople [4] found that the range of hours of instruction had increased from eight to one hundred and thirty-six hours, that the

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* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 3, 1955.

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hours of outpatient teaching in fifty-nine schools now ranged from four to ninety hours, and that the average allotment for the course was 47.3 hours.

All of the men questioned by McCaskey in 1952 wished that they had had more training in otolaryngology. There is no question that even now more should be given. In small communities, remote from urban medical centers, the general practitioner has no choice but to include otolaryngology in his practice. Even in large communities it is both logical and desirable that a certain amount of otolaryngology should be done by the general practitioner and the family doctor. On the other hand, the acceptance of those facts of medical life places a definite responsibility upon the medical schools in the teaching of otolaryngology.

It is not always easy to meet the challenge, as I know from personal experience. There are few vacuums in the medical curriculum, and a great deal of competition from every department for such as do exist. I speak as a veteran of the battle. We have rearranged and increased the teaching in otolaryngology at the Tulane University School of Medicine. We are greatly encouraged by what we have accomplished. But we are not yet offering sufficient instruction to meet the needs of the graduate who expects to do general practice and to include some otolaryngology in it.

THE COMMON COLD

Time will permit me to speak of only a few of the numerous problems which the general practitioner will encounter in the field of otolaryngology. The most frequent, and in many ways the most important, is the common cold, or acute rhinitis. It is rightly the business of the general practitioner, though in its complications, which are many, it often becomes the responsibility of the otolaryngologist. Neither gets any satisfaction from its management. You will forgive me for quoting the tired old joke that the common cold lasts a week with treatment and seven days without treatment, but it is still generally true. Nonetheless, the situation can be improved if it is remembered—as it usually is not—that all colds are not alike. As a matter of fact, they fall into two distinct categories and need two separate kinds of treatment. There are, however, certain common denominators of therapy. One is that local medication with nose drops, sprays and inhalers is to be avoided, as being useless and potentially harmful. The other is that antibiotic and chemotherapeutic agents should be withheld unless there are definite signs of secondary infection. The promiscuous use of these valuable agents for the common cold is a general and serious therapeutic error.

The first variety of cold begins with a sensation of dryness and a sore, scratchy feeling in the throat and nasopharynx. Actual soreness of the throat and nasopharynx is a later development, which is accompanied by a watery nasal discharge, lacrimation, headache, and general malaise. Sneezing begins on the second or third day. With this type of cold there is usually a temperature elevation, from 99 to 101° F., and often higher in children.

Treatment is chiefly general. The patient should be kept in bed, in a well heated and well ventilated room, until he is free from fever for at least twenty-four hours. His fluid intake should be increased. Therapy is limited to papaverine in combination with codeine (gr. ¼ each) every four hours unless nasal blockage is severe. Then some type of medication such as paredrine hydrobromide aqueous is prescribed. This is the type of cold which sometimes goes on to pneumonia and it should be treated with respect due to that possibility.

The second variety of common cold begins with sneezing, nasal blockage, and a profuse nasal discharge. In contrast to the variety just described, pharyngeal and nasopharyngeal symptoms are a late development. Also in contrast to the first variety, malaise is a minor complaint and there is no elevation of the temperature. Therapy is limited to antihistamines, combined with vasoconstrictor drugs. Local

medication has a particularly irritating effect. In this variety of acute rhinitis, if treatment is begun early enough, the attack can sometimes be aborted and can frequently be mitigated.

Children are peculiarly susceptible to colds and the course is generally longer in them than it is in adults. If, however, a cold persists longer than a week, signs of secondary allergy are almost the rule and antihistaminic therapy is indicated. If the dosage is correctly adjusted for age, side effects need not be feared. Children who present a thick, tenacious nasal discharge can often be remarkably benefited by the use of tip suction in the office.

When colds and upper respiratory infections are frequent, empirical medication is contraindicated and a general survey of the child's health is mandatory. Often at this age, as well as at other periods of life, an excessive intake of carbohydrates will be found responsible. Some allergy may also be the basis of the trouble. Possible sensitivity to milk, chocolate, and carbonated drinks should be investigated. So should house dust, which is often introduced by way of forced air heating systems. The fuzzy, dust-carrying dolls and toys so dear to children and so innocent-looking are frequently the explanation.

It should be emphasized, however, that the persistence of nasal symptoms in a child, as well as recurrent attacks of acute rhinitis, demand careful investigation before an allergic basis is assumed. Allergy must be distinguished from infection. Disease of the sinuses must be excluded. The tonsils and adenoids must be exonerated. The era of promiscuous tonsillectomy has long since passed, but tonsillectomy is still a valuable procedure in selected cases. In short, before antihistamines or any other medication is prescribed, diagnostic procedures are indicated and a definite diagnosis should be arrived at.

NASOPHARYNGITIS

Infection of the nasopharynx may give rise to a variety of symptoms and manifestations, not all of which are localized. They include a nonproductive cough, chronic or recurrent bronchitis, pain in the fifth and ninth cranial nerves, otitis media, impairment of the hearing, and persistent low-grade fever. The symptoms and signs usually bear some relation to the amount and distribution of the lymphoid tissue present in the nasopharynx.

Most infections of the nasopharynx arise from a postnasal discharge. Sometimes, as just intimated, an excessive amount of lymphoid tissue is responsible. Sometimes a diet high in carbohydrates is the cause.

Therapy depends upon a determination of the cause. Textbooks of otolaryngology have a great deal to say about the postnasal discharge, and many of them say it almost pontifically. There is little basis for such an attitude. Most of us find the elimination of these discharges as difficult and as unsatisfactory as any problem which we encounter in otolaryngology.

Relief can frequently be obtained by local chemotherapy. We prefer gantrisin, in the form of nose drops which contain the agent in solution rather than suspension. When it is applied in the form of a suspension, it tends to cake and act as a foreign body and to cause additional discomfort from obstruction. The medication will be useless unless it is so instilled that the solution passes over the floor of the nose onto the nasopharynx.

If the attack does not clear up promptly, and always if it is severe, persistent or recurrent, otolaryngologic consultation is necessary. At the very least an investigation of the nasal sinuses is required, and an inquiry into possible allergic factors. Sometimes treatment directed to the posterior ethmoids and sphenoids is indicated. Excessive lymphoid tissue must sometimes be removed surgically. We have been unable to duplicate in our own experience the successes reported by some otolaryngologists with x-ray. We have, however, had a limited success in controlling chronic and recurrent cases by the use of autogenous vaccines.

In all cases of nasopharyngitis accompanied by a postnasal discharge, the pa-

tient who smokes must be invited to decide whether he shall continue to smoke or be rid of his discharge. In our own experience, the two are incompatible.

SINUSITIS

The first essential in acute sinusitis is to relieve the pain and headache which are the principal symptoms and which are the result of pressure. Heat in the form of hot compresses is a simple, useful measure. So are steam inhalations. Infra red therapy may be also helpful.

As to medication, our experience is that vasoconstrictor drugs by mouth reduce congestion more promptly and more satisfactorily than topical applications by sprays or nose drops. If an allergic basis is identified or suspected, an antihistamine should be added to the vasoconstrictor drug.

Antibiotics or chemotherapeutic agents should be used in acute sinusitis only if there is a temperature elevation. Since multiple organisms are usually responsible for the infection, broad spectrum drugs are more useful than penicillin. When specific therapy is indicated, the dosage should be sufficiently large, and the duration of treatment sufficiently long, to prevent sensitization and to guard against the possible development of resistant organisms.

Empyema is an indication for prompt otolaryngologic consultation. So is recurrent sinusitis. This is frequently a disabling disease and, if it is not properly treated, it can become extremely serious.

DISEASE OF THE TONSILS AND ADENOIDS

Tonsillectomy has become a highly controversial operation. There is no doubt that formerly it was used with a complete lack of discrimination. There is also no doubt that it still has a definite place in otolaryngology and that it is as foolish to refrain from performing it when it is indicated as it is culpable to perform it when it is not.

Among the indications for tonsillectomy —all of them, it should be emphasized, valid only when other possible causes of symptoms have been ruled out—are: (1) frequent attacks of tonsillitis with fever and other systemic manifestations; (2) recurrent peritonsillar abscesses; (3) frequent infections of the ear, whether suppurative or serous; (4) persistent and recurrent cervical lymphadenopathy; (5) obstructive difficulties of speech, breathing and swallowing; (6) frequent or practically continuous head colds. Tonsillectomy is also indicated in children with rheumatic heart disease, who fail to gain weight and who suffer from malaise. It is an essential procedure in the control of diphtheria carriers. Local disease, of course, must be present before any of these general indications are justified.

I do not propose to go into the question of the possible relationship between tonsillectomy and the subsequent development of poliomyelitis other than to comment on the complete unwisdom of undertaking elective surgery in the midst of any kind of epidemic. The most obvious reason for postponing tonsillectomy, which can scarcely be conceived of as an emergency, until after the poliomyelitis season is that one has no way of knowing whether a child has been exposed to the disease before operation, or will be exposed to it, in the ordinary course of events, immediately afterward. There is a tragic lesson in the fact that, according to the lay press, the only death from poliomyelitis in the mass vaccination test just concluded occurred in a child whose course of injections had been begun late and had not been completed and who underwent tonsillectomy while they were in progress.

In the occasional case of secondary hemorrhage following removal of the tonsils and adenoids we have found the use of double strength U.S.P. posterior pituitary extract by intramuscular injection to be highly effective. Adults receive a total dosage of 15 minims given in 5 minim doses at fifteen minute intervals. Children under 6 years of age receive a total dosage of 12 minims, also given fractionally at fifteen minute intervals. Because this drug is known to decrease the blood flow in the coronary arteries it is contraindicated in patients with cardiac disease.

We have used this method to date in 174 cases. In 16 instances it was unsuccessful and bleeding had to be controlled by pack, suture, or ligation of the involved vessel. In the other 158 cases bleeding ceased promptly and permanently after intramuscular injection of the pituitrin. A technique which is more than 90 per cent effective is worth testing before more complicated methods are resorted to.

OTITIS EXTERNA

Otitis externa is a therapeutically tempting disease, if I may so express it, because it is so accessible and because treatment seems so simple, requiring little more than a dab of this or that proprietary preparation almost guaranteed to cure it. One of its risks, as a matter of fact, is the apparent simplicity of treatment. Nothing could be more specious and misleading. Treatment will not be successful, and may be damaging, if it is not based upon certain cardinal principles. They include:

1. Relief of pain, which is best accomplished, in properly selected cases, by small applications of x-ray.

2. Cleansing of the aural canal. This is a procedure, let me assure you, which is not in the least simple and which should never be undertaken by a physician without special training in the technique.

3. The local application of medication appropriate to the organisms present. These infections of the external ear, contrary to the former belief, are much more often bacterial than fungous in origin. An experienced otolaryngologist can often make the distinction by gross inspection. An inexperienced physician should not undertake treatment without laboratory identification of the bacterial or fungous cause.

Our own experience has been that preparations of hydrocortone acetate combined with neomycin are highly effective in most bacterial infections and equally ineffective as well as dangerous in fungous infections, which are markedly enhanced by their use. If the infection is of fungous origin, aspergilli, which are most frequent, usually respond well to the use of 1 per cent thymol in 50 per cent cresatin solution. Monilial infections are extremely obstinate. They are best treated by very careful cleansing of the aural canal, the local application of 3 per cent gentian violet solution, and the use of iodides by mouth, in dosages up to 90 gr. daily if the patient can tolerate that amount.

External otitis is, I am afraid, a disease in which the general practitioner who is without special training in manipulations within the aural canal and who does not have laboratory facilities for special examinations should content himself with measures to relieve pain, referring the patient to an otologist for further treatment. I make the suggestion with less hesitation because some of the most obstinate cases of otitis externa which I have encountered have been those treated in various inadequate and incorrect ways before I was consulted. This has also been the experience of other otologists in this part of the country, where, as you perhaps know, this is an extremely frequent and annoying condition.

OTITIS MEDIA

Otitis media is a disease of which I cannot speak without a certain amount of emotional indignation. My own feeling is that in dealing with it many physicians, otolaryngologists among them, have lost all sense of surgical values. Certain facts of pathology have been completely forgotten. This is a self-limited disease which, in the absence of suppuration, will go on to recovery in 80 per cent or more of all cases under the simplest measures, or no treatment at all. Antibiotic and chemotherapeutic agents are not indicated in this group of cases. Many of the results reported as brilliant evidences of their value have to do with patients who would have recovered with equal promptness and permanence if they had merely been let alone.

In cases of this kind the antibiotics usually do no harm. Once suppuration has occurred, however, the whole situation changes and they can do a great deal of

harm. When suppuration is present, the optimum conditions for the employment of these agents do not exist. The pathologic process in otitis media is, in effect, a localized abscess enclosed in a bony cage. The first requirement of antibiotic therapy, that the drug be brought into contact with the diseased tissues, therefore cannot be met. The physicians — and their name is legion — who treat suppurative otitis media by antibiotic therapy have lost sight of this criterion, as well as of the fundamental surgical principle that pus must be evacuated by surgical measures.

The dramatic improvement which frequently follows the use of antibiotics is, paradoxically, one of the dangers of this method of treatment. Physicians who point to the initial results to support their case fail to remember that it is not until later that recurrences become evident or that the disease assumes a chronic form, sometimes associated with repeated perforations of the tympanum. More serious consequences also may ensue, such as mastoiditis, meningitis, epidural or perisinal disease, lateral sinus thrombosis, or cerebral abscess. Furthermore, many a deaf child has reached that state because of the misuse of antibiotic therapy in middle ear disease.

What all of this amounts to is that the majority of cases of otitis media can perfectly well be treated by simple measures, and that in the cases which go on to exudation, myringotomy remains the useful and essential operation which it has always been.

In uncomplicated otitis media the objective of therapy is to control the upper respiratory infection, in order to secure ventilation by way of the eustachian tube. This is best accomplished with oral vasoconstrictors. If lymphoid tissue is prominent in the nasopharynx some type of nose drops may be useful. If allergy is suspected, an antihistamine may be employed. Either heat or cold may be employed to relieve pain or discomfort; neither has any therapeutic value.

Local applications to the ear should not be employed. This holds for both the old-fashioned phenol and glycerine mixtures and the more modern proprietary preparations. If pain is severe enough to suggest the need for local applications, myringotomy is usually indicated, whether the pressure is the result of suppuration or simple exudation. If the general practitioner has not been trained to perform this operation, the patient should be promptly referred to an otologist.

Only local analgesia is necessary. It is secured with some such agent as Bonaine's mixture; a cotton pledget saturated with it is placed against the tympanic membrane for fifteen minutes by the clock. The child must be under control, which is best accomplished by wrapping him in a sheet and having an assistant hold his head firmly. The otoscope is then inserted and a crescent-shaped incision is made in the posteroinferior quadrant, from below upward, to avoid injury to the ossicular chain. If the promontory (inner wall) is avoided, the incision can be made without difficulty, with little or no discomfort.

If a tip suction is available, aspiration is practised, but neither medication nor irrigation is indicated thereafter. Cotton wicks are kept in the canal and are changed frequently enough to keep the field clean.

Recurrent otitis media, chronic otitis media, and hearing impairment of any degree all require the prompt attention of the otologist.

LARYNGITIS

Laryngitis, which usually presents in the form of hoarseness, is one of the most deceptive and most insidious diseases which either general practitioner or otolaryngologist encounters in practice. It is frequently associated with an upper respiratory infection. It can frequently be explained by misuse or excessive use of the voice. It very often responds promptly to mere rest of the voice.

These considerations are all highly misleading: Hoarseness, while it may be no more than a transient and insignificant symptom, may also be the first symptom of carcinoma of the larynx. For a number

of reasons this type of cancer is, at least theoretically, readily curable. The special regional lymphatic distribution, the slowness of lymphatic drainage, and the restraining presence of the laryngeal box of hyaline cartilage all help to keep it a local disease for a considerable period of time and make it highly favorable to treatment by simple, non-mutilating measures. These advantages are all lost once the disease becomes extrinsic, as it frequently does because of delay while the initial symptom is treated with sprays, gargles, lozenges, and, of course, antibiotics, which have no place whatsoever in the treatment of a nonbacterial condition.

If hoarseness does not promptly subside, and in many cases even when it does, the patient should be referred to an otolaryngologist who is expert at mirror examination of the larynx, who can perform direct laryngoscopy, and who can also perform biopsy, which is the only sure means of making the diagnosis in questionable cases.

NOSEBLEED

Most nosebleeds are so simple and so transient that they are over long before it occurs to the patient to consult a physician. The occasional more serious variety sometimes constitutes a grave emergency and may actually endanger life.

The single most important point in management is to determine the origin of the bleeding. Therapy depends upon this information. The diagnosis should therefore begin with questioning on this point: Did the patient spit up blood first? Or did the blood come from the nose? If the patient cannot answer the question, he should be directed to sit up and lean forward. As long as he lies down, he swallows the blood. If he sits up and leans over, while he may continue to bleed, he has a better airway and the origin of the bleeding can be settled.

If bleeding is from the nose the assumption is that it is from the anterior third of the nasal cavity, generally from the septum. Bleeding of this origin can usually be checked by the insertion of a simple cotton pack and the application of digital pressure for five minutes by the clock. If desired, so-called spot packing may be employed under direct vision, or some hemostatic agent such as oxycel or a hemostatic pack (hemopack) may be used. After bleeding is under control the affected area may be cauterized with the coagulating current.

If bleeding originates in the throat, a postnasal pack may be inserted and tight spot packing employed anteriorly. Bleeding of this origin usually comes from the sphenopalatine artery, in the region of the sphenoid recess, the anterior ethmoid, high in the middle meatus, or from a branch of the pharyngeal artery, in the region of the posterior tip of the inferior turbinate. If it does not promptly cease, it may be necessary to ligate the anterior ethmoid, the sphenoid, or the internal maxillary artery. Ligation of the carotid artery or the external maxillary artery is much less satisfactory because the abundant collateral circulation permits bleeding to continue after ligation.

A patient with serious bleeding should be taken promptly to the hospital and placed under the care of an otolarygologist. Whenever nasal packing is used, an antibiotic should be administered, to guard against secondary infection. When bleeding is severe, hypotensive drugs should be used. Serpasil (reserpine) in dosages of 0.25 mg. every three hours, in addition to lowering the blood pressure, has a sedative action and increases the effect of such other sedation as is used. Patients with serious bleeding are naturally apprehensive, and measures to control their fears should be part of the plan of treatment. If blood loss has been serious, transfusions of whole blood are indicated.

DEAFNESS

The general practitioner is, of course, in no way equipped to treat deafness, but he is ideally equipped to identify deafened patients, often while it is still possible to do something constructive about their disability. The fact that this field of case-finding is so largely lost to us goes back to what was said in the beginning of this paper, that our teaching in otolaryngology

is defective. Otologists are also to blame in that they have been slow to point out how much can be achieved today in the alleviation of this handicap, by rehabilitation if not by curative therapy. It would be cruel to hold out hope of cure in a large proportion of cases. It is equally cruel not to spread the news of what can be done by rehabilitation, at all ages. The general practitioner who adds a simple question about hearing to the routine of history-taking, and who, perhaps, adds the use of a tuning fork to the routine of physical examination, will identify large numbers of deafened persons who otherwise would never reach the otologist.

PRINCIPLES OF THERAPY

At intervals throughout this paper I have commented on the unwisdom and actual danger of using antibiotic and chemotherapeutic agents in otolaryngologic conditions except on strict indications. I have also commented on the unwisdom and actual risk of the promiscuous use of nasal medications, in the form of drops, sprays and inhalers. In conclusion, I would like to emphasize the latter consideration again.

Nasal medication is seldom indicated. It is contraindicated in the treatment of the chronically congested nose. I can see, in fact, only two absolute indications for its use:

1. When a pharyngitis is present, with or without excessive lymphoid tissue. Nasal medication is then employed, with an antibiotic or a chemotherapeutic agent added in solution, not suspension.

2. When cleansing of the nasal canals is necessary in children. Nasal medication is then employed, for its mechanical, flushing effects.

The proprietary preparation which we have found least obnoxious is hydroxyamphetamine hydrobromide. We prescribe it only in small amounts, and always add a note that the prescription is not to be re-filled.

In chronic nasal obstruction a combination of vasoconstrictor and antihistamine drugs is prescribed for oral use; meantime, the underlying cause is sought for and corrected. Oral medication is more effective than local medication in shrinking the nasal mucosa and providing an adequate airway, while at the same time avoiding the irritating effects of local therapy. Our experience has been that patients with hypertension are quite as well able to tolerate a vasoconstrictor drug such as neosynephrine by mouth as intranasally.

SUMMARY

For a number of practical reasons otolaryngology forms part of the practice of the general practitioner and the family doctor. For this reason it should receive more consideration than it does in the medical curriculum. The conditions which are most often encountered in general practice are briefly discussed from the standpoint of diagnosis and therapy. Nasal medication and antibiotic therapy have a strictly limited field of usefulness in otolaryngology. It is emphasized that certain conditions, such as otitis externa, otitis media, and laryngitis, while superficially simple, may be potentially serious or may become serious under careless and ill-advised therapy. Physicians who are not prepared to employ myringotomy in otitis media or to examine the larynx definitively in apparent laryngitis should not accept the responsibility for the management of these conditions.

REFERENCES

1. Lierle, D. M.: The present status and the future of otolaryngology, Ann. Otol., Rhin. & Otolaryng. 59:496, 1950.

2. McCaskey, C. H.: How much otolaryngology should be taught to general practitioners? J.A.M.A. 150:67, 1952.

3. McCaskey, C. H.: The present status of otolaryngologic education: Address of the President, Tr. Am. Acad. Ophth. 53:5, 1948.

4. Hoople, G. D.: Otolaryngology looks to the future, J. M. Education 28:29, 1953.

DISCUSSION

Dr. Samuel Zurik (New Orleans): When Dr. McLaurin first asked if I would discuss his paper, I agreed immediately; for, in the first place, I wouldn't dare deny the Head of our Department at Tulane, and secondly, I thought that it would be a relatively simple matter with such a broad field to cover. Little did I realize that his paper was to be a postgraduate course in Otolaryngology, covering this specialty as completely as a wall to wall carpet covers a floor. Unfortunately, I am limited to only eight minutes. Because of the element of time, I have selected to discuss

further the one topic which I consider of vital importance to each of us.

Since our present day therapeutic concept for cancer of the head and neck consists of aggressive intervention at the stage when the tumor is confined to the primary focus, or to the primary site and the regional lymphatics, it behooves each of us to establish himself as a cancer detective. Early diagnosis of cancer depends to a very considerable extent upon whether the physician is suspicious, and granted that suspicion, what he does about it.

Unilateral enlargement of cervical nodes is most frequently a sign of metastatic cancer, and in many individuals, the only initial sign of head and neck carcinoma. In a group studied by Hayes Martin and Associates, 50 per cent of all patients with cancer of the nasopharynx presented involved cervical nodes as a first sign; similarly, 33 per cent of patients with tonsillar cancer, and 30 per cent of those with cancer at the base of the tongue first became aware of their disease because of enlarged cervical glands. Hayes Martin states dogmatically that, "Asymmetrical enlargement of one or more cervical lymph nodes in the adult is almost always cancerous, and usually is due to metastasis from a primary lesion in the mouth or pharynx."

When a lymph node is suspiciously enlarged in the neck, one must obtain a complete and detailed history. Unilateral ear pain, diminished hearing, tinnitus, and complaints of intermittant spontaneous bleeding from the nose or mouth, would indicate the probably presence of a lesion in the nasopharynx. Painful swallowing suggests a lesion in the oral cavity, on the tonsil, at the base of the tongue, or in the hypopharynx or cervical esophagus. If dysphagia is accompanied by dyspnea, hoarseness, or both, the larvnx or pyriform fossa is probably involved. While persistent hoarseness is the chief warning of intrinsic larvngeal cancer, patients with cancer of the extrinsic larynx do not present hoarseness as a primary symptom, and may never do so. The only manifested complaints might well be dysphagia or dyspnea or both. Persistent unilateral nasal blockage with or without bleeding, despite systemic and local therapy, should indicate to the examining physician the need for further studies of the nasal accessory sinuses as the possible source of primary neoplasia.

The problem of head and neck cancer therefore centers around the suspicion of the physician who first examines the patient, that the mass in the neck is probably malignant, and that practically all such masses are metastatic in origin. Better statistical results can only be expected when this is recognized. It is well to inject at this point that, for an examination to be properly done in this area, good illumination must be obtained with either a headlight or head mirror, a working knowledge of use of the throat mirror must be available, and a willingness to utilize a probing finger for palpation within the mouth and throat. Through this systemic and careful search, approximately 90 per cent of the primary tumors can be located. At this point, it should be emphasized that a search for the primary lesion must always precede any therapeutic procedure. Premature excision of the neck mass results not only in the patient continuing to harbor the primary neoplasm, but will produce further and more distant metastasis, and will tend to make any further definitive neck surgery considerably more difficult. If the primary lesion cannot be found by thorough investigation, aspiration biopsy is the next diagnostic step. When this is positive for malignant cells, and primary lesion is found after careful search, then complete neck dissection should be carried out. Following this, the patient should be reexamined monthly in search for the primary source.

Before closing my discussion, I would state that while many primary tumors of the neck are seen, their diagnosis is more readily made, and they appear far less frequently than those of metastatic origin.

I should like to compliment Dr. McLaurin for a most informative and timely paper, and also to thank him for the privilege of entering into the discussion.

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A CENTURY OF PROGRESS IN THE CONTROL OF COMMUNICABLE DISEASES *

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In January 1854, in his opening address to the joint meeting of the Louisiana Senate and House of Representatives, Governor P. O. Hebert stated:

"The fearful epidemic [of yellow fever] which prevailed during the summer months of the past year, over a greater portion of the State, while it filled with sorrow many a once cheerful and happy home, and consigned to a premature grave thousands of our best and most useful citizens, served to develop in others and to stimulate into active exercise the highest and noblest virtues that adorn the human character.... The sanitary condition of the city of New Orleans, is no longer a question of local interest. When the meshes of railroads, which must eventually connect every part of the State with its great emporium, shall have been

* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 3, 1955.

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completed, the most distant villages on our frontiers will be as suburbs of New Orleans.... The fate of all is therefore involved in the fate of New Orleans—the public health of the state must depend, more or less, upon the public health of its metropolis. In view of this fact, it becomes your duty, and I am sure it will be your pleasure, to bestow your most serious attention upon such measures as you may deem most advisable and efficient to mitigate the effects, if not to prevent the recurrence of such fatal diseases as the one which swept over our State during the past summer." [1]

As a result one hundred years ago, on March 15, 1855, an act "to establish quarantine for the protection of the State" was approved by the Governor of the State of Louisiana. This law established the Louisiana State Board of Health setting the course for subsequent legislative acts which initiated the formation of the Louisiana State Department of Health. A quarter of a century later, in his Report of the Board of Health for 1882, Dr. Joseph E. Jones wrote:

"All the great sanitary and quarantine measures of the past 27 years in Louisiana, may be directly or indirectly traced to this act. During the preceding 155 years of the existence of the Colony, Province and State of Louisiana, the sanitary and quarantine efforts of the people were spasmodic, unsatisfactory and of short duration; and as a consequence, at frequent and short intervals, the people were decimated by foreign pestilence, imported by maritime men and immigrants. Up to the present moment the great principles embodied in the twenty-nine sections of this act have not been withdrawn." [2]

As can be seen from the above, one of the impelling reasons for initiating that legislation, one hundred years ago, was the fact that communicable diseases were rampant. In 1955, the year of this significant centennial, it is appropriate to review the communicable disease situation as it was in 1855, as it has decreased since then, as it is now, and to consider what yet remains to be accomplished.

One hundred years ago, the most important communicable disease in the State of Louisiana was yellow fever. The first authenticated epidemic of this disease in New Orleans, occurred in 1796, during the Spanish Regime, when Baron de Carondelet was Governor. For the following 110 years, until 1905, yellow fever prevailed endemically, claiming an average annual total of 1,000 or more lives. In the years of the great epidemics, this increased to a mortality of 3,000 in 1867, 4,000 in 1878, 5,000 in 1858, and 8,000 in the greatest epidemic of 1853.[3]

Perhaps the best way to impress the meaning of an epidemic of yellow fever on those who have never known this experience is by giving the following description of its horrors, as quoted in a paper by Dr. Rudolph Matas:

"Every door was kept closed and every window shuttered. The town looked dead. The only movement was the flutter of the myriad white funeral notices, tacked to the fences and posts and housefronts. At sunrise and sunset the booming of cannons rattled windows and great lazy pillars of black smoke, rising from tar fires in every backyard, hung over the city like streamers of mourning crêpe, pinned to the clouds. The Town Council, upon the advice of the Board of Health, had ordered this done in the hope of killing the infection.

"The cry 'Bring out yo' dead!' echoed gruesomely through the streets in the early morning as wagons made the rounds to collect the bodies of the poor who had died in the night. Wrapped only in sheets, they were dumped like refuse into the carts. Huge cotton floats, drawn by four lathered mules, bumped over the cobbles, bearing great pyramids of coffins, piled high.

"The street leading to the cemetery was just a ghastly funeral procession, black-plumed hearses followed by carriages; a man balancing a child's coffin on his shoulder, his eyes streaming tears; an old woman and a boy tugging at a child's wagon on which a cheap casket was perched; a drunken Irishman singing a bawdy song as he drove a dump cart filled with cadavers. Here was a pock-marked Negro, pushing a wheel-barrow loaded crosswise with a long pine box, and a black frocked, frightened woman with a child in her arms following on behind. All this and more, one saw.

"At the gates milled a rabble of colored people, selling sweet-meats and bellywash, some with their candies spread out on tables, others with their wares in baskets on their arms. Great green bottle-flies, so gorged they were lethargic, swarmed over the dainties of the vendors, who waved futile brushes made of gaily colored strips of paper as they called: 'Pralines! Pralines!' or 'Bel calas! Bel calas tout chauds!' or 'Bière creole! Tout frais!'

"Inside the stench was dreadful. People held handkerchiefs to their noses and the grave diggers swathed the lower half of their faces in cheesecloth soaked in camphor. Coffins were stacked in piles

of fifty under the torrid sun and flies feasted everywhere. Shallow trenches, not two feet deep, were dug in the marshy land, and the workmen stopped frequently to curse or pass a whiskey bottle down the line. Half-drunk, some of them sang obscene songs, while others kicked bones out of the way with a brutal 'Room for yo' betters, damn ye.....!' Carts dumped their loads of cadavers into the ditches like so much manure and the grave diggers pushed them around with their mattocks and kicked them into position, before spreading a thin layer of loosely heaped clods and a few shovels of lime on top.

"People of consequence were interred with little more decorum. Family slaves, up to their waists in water, dug deep graves. Frequently, when the coffins were put in, they would not sink until the slaves, holding hands to balance themselves, would stand on each end and see-saw, or a passing grave digger would say, 'I'll fix it fur ye,' as he drove the point of his pick through the cover of the casket to let out the gases. Small wonder that New Orleans was known up and down the river as the wet grave." [3]

It was yellow fever which was responsible for the appointment of the Sanitary Commission of New Orleans on the Epidemic of Yellow Fever of 1853. This Commission consisted of the Hon. A. D. Crossman, Mayor of New Orleans, and five physicians, Drs. E. H. Barton, A. F. Axson, S. D. McNeil, J. C. Simmonds, and J. L. Riddle.

The duties of the Commission were:

"1st, To inquire into the origin and mode of transmission or propagation of the late epidemic yellow fever;

2nd, To inquire into the subject of sewerage and common drains, their adaptability to the situation of our city, and their influence on health;

3rd, To inquire into the subject of quarantine, its uses and applicability here, and its influence in protecting the city from epidemic and contagious maladies; and

4th, To make a thorough examination into the sanitary conditions of the city, into all causes influencing it, in present and previous years and to suggest the requisite sanitary measures to remove or prevent them and into the causes of yellow fever in ports and other localities having intercourse with New Orleans." [4]

In 1854, by authority of the City Council of New Orleans, the Commission published its voluminous report which stated that the object of the recommendations was:

"Prevention—saving the community from the infliction of disease." * * * "For the purpose of carrying out in a full manner the views herein set forth, we earnestly recommend the project of a Health Department in a subjoined report. Such an organization we deem indispensable to the condition and character of the city; special requisites are demanded, with experience, science and skill. It should be constituted a special consultative Department, to be advised with in all cases by the city government, affecting the health of the city, and it will be seen, hereafter, they are very numerous. No enlightened city is without one, and here it is more demanded than in any other." [4]

The actual recommendations made by the Commission consisted of the following:

"1st, To adopt the system of Sewerage—the system approved of by the Sanitary Commission, as reported by our colleague, Prof. Riddell—embracing streams of running water constantly through the streets, from the river or otherwise, from March to November, during the day only.

2nd, The drainage, in the most complete manner of the neighboring swamps and levees on Lake Pontchartrain, to keep out the Lake water. This to be effected by machinery and covered drains, and these to be dug in the winter season. After this is fully effected, in the opinion of your Health Department—

3rd, The removal of the forest growth, excepting for avenues and parks.

4th, The completion of the pavage of the city (removal of the round stone) by square blocks, united by cement, and the avenues may be (temporarily) by thick planks.

5th, The purchase and extension of the Water Works to every portion of the city, with fountains in each of the public squares.

6th, An extension shed the entire front of the business part of the city.

7th, To plant trees in all the public squares and principal streets.

8th, To fill up Gormley's Basin and make a public square of it.

9th, To make covered drains of Gormley's and Melpomène's Canals and all the other drains of the city.

10th, That the slaughter houses be removed to such distance from the city, and all vacheries and livery stables having over six animals removed to squares having fifty population and ten dwellings. The same of soap and tallow chandleries, or other manufacturers or pursuits that have a tendency, in the opinion of your Health Department, to impair the purity of the city atmosphere.

11th, The adoption of a system of privies, according with the recommendations in this Report.

12th, To discontinue interments in the city limits.

13th, To prevent any but the most superficial disturbances of the soil of the city or neighborhood, from 1st May to 15th October.

14th, To establish a Health Department on the plan detailed in the next section.

15th, To establish a quarantine station, not nearer than eight miles from the city, as a branch of the Health Department.

16th, To carry out fully the system of privies as described in another section of this Report.

And finally: to order at an early day, a complete Sanitary Survey of the city before the warm weather sets in, under the instructions of the Health Department, of every house, lot and back yard in the city, to be most thorough and searching for every cause of disease, with plenary authority for that body immediately to abate it. To ascertain from every family the number that have not been vaccinated." [4]

These, then were the immediate reasons why the State Board of Health was established 100 years ago: (1) The long history of epidemic outbreaks, particularly of yellow fever; and (2) the recommendations of the Sanitary Commission of New Orleans on the Epidemic of Yellow Fever of 1853.

One of the earliest activities of the new Board of Health was to collect mortality statistics for the City of New Orleans. Those first published were for the period May 1855 to April 1856 and are to be found in the second annual report of the board to the Legislature.[5] Of the total of 9,085 deaths, 5,934, or nearly two-thirds, were caused by communicable diseases. Among the most important of these were: yellow fever, 2,670; cholera 855; tuberculosis 652; diarrhea 262; tetanus of the newborn 200; and typhoid fever 187.

Of the 9,085 deaths: 1,474 or about one-sixth were in the first year of life; 2,897 or nearly one-third were under 10 years of age; and 4,864 or over one-half were under the age of 25 when they died.

With an estimated population of 148,400, the total death rate for the city was 61.2 deaths per thousand population. This figure was 2½ times the 1855 European average of 23.8 per thousand population, and apparently the highest death rate of any of the larger cities in the United States. In 1855-1856, the citizens of New Orleans died from communicable disease alone at a rate of 40 per thousand population or a rate greater than the total death rate of any other city in the country.

This was the situation in New Orleans one hundred years ago. What, then, has happened in the century that has just been completed?

One hundred years is not a long period as far as the known history of mankind is concerned. However, this past century is remarkable because during that time a greater contribution has been made toward increasing man's longevity than in all of the previous centuries put together. One easy way of supporting this statement is to consider man's average length of life today with those at various earlier points in history. Estimates of age from skeletal remains indicate that in the early Iron and Bronze Age, some 4,000 years ago, man's total life averaged about 18 years. Studies of the age at death of several thousand Roman citizens of the early Christian Era have determined that the average length of life then was about 22 years. The Elliot Life Table for 1855 showed that life expectancy at birth in the United States 100 years ago was about 40 years.[6] At the present time in this country it is approaching 70 years. Therefore, in the last 100 years, man has gained nearly 30 years of additional life, while in the previous 40 centuries, the total increase was about 22.

The remarkable increase in longevity during the past hundred years has been in a large measure due to progress made in the control of communicable diseases. This has been brought about by scientific developments in the practice of medicine and in the field of public health.

Probably the most numerous advancements in any field in the past century are to be found in the science of bacteriology. It is remarkable that so much knowledge is available today in a science which hardly existed a hundred years ago.

Louis Pasteur, the great French chemist and bacteriologist, began his phenomenal career in 1848. His experimental work on racemic acid won for him the ribbon of the Legion of Honour. His researches on fermentation led to his recognition as the leading chemist of his day and produced practical results of far-reaching conse-

quence in such industrial processes as beer, wine, and vinegar manufacture. His efforts in investigation of the diseases of silkworms not only saved the prosperity of the French silk industry but that of all silk-producing countries. He demonstrated the natural history of anthrax and developed a successful vaccine. He prevented chicken cholera by cultivating the organism and using it for inoculation. His most interesting studies concerned rabies and the development of an attenuated virus for use as a preventive.[7]

Pasteur was not a physician, and the new science of bacteriology which he so successfully fostered was not thoroughly appreciated by the medical profession until the discovery by Robert Koch of the tubercle bacillus in 1882. This discovery ushered in what has rightly been called the golden age of bacteriology. The bacteria causing anthrax, gonorrhea, leprosy, pneumonia, and typhoid fever had already been described. Between 1882 and 1889 the causes of cerebrospinal meningitis, chancroid, cholera, diphtheria, erysipelas, glanders, Malta fever, and tetanus were discovered, and in the next decade, those of dysentery and plague.[8]

The science of bacteriology has fostered the development of protective antisera and vaccines. It has given birth to a new science, that of virology, which bids fair to equal bacteriology's own contributions to the control of communicable disease. And finally, it has played a vital role in the development of the chemotherapeutic and antibiotic agents which are so important today in the control of communicable disease.

Another field which was practically unknown a century ago was that of public health. The "Great Sanitary Awakening" of the 19th century started in 1842 when Edwin Chadwick, secretary of the British Poor Law Commission, presented to Parliament a summary volume entitled *Sanitary Conditions of the Labouring Population of Great Britain.* Its influence was so great that it led to the appointment of the General Board of Health in 1848.[9]

There is no doubt as to the role of that report in encouraging the formation of sanitary commissions in this country including the Massachusetts Sanitary Commission of 1850, under the leadership of Lemuel Shattuck, the New Orleans Sanitary Commission of 1853, mentioned above, and a citizens' association survey of New York City in 1865. These commissions and surveys were instrumental in the initiation of State and local health departments and in the founding of the American Public Health Association in 1872. For a long time thereafter such organizations were to be concerned primarily with the control of communicable diseases.

The partial purification of water probably dates back to the earliest times. It is not improbable that boiling water to purify it may have been an ancient precaution. Ages ago, everyone must have recognized the potent force of heat, and our ancestors possibly had their suspicions that dirty water caused disease and hence used heat as the most likely method of destroying impurities. As time went on sand came to be recognized as an effective filtering material, judged, no doubt, at first, by the clarified condition of the filtered product. Sand filtration, as a practicable proposition for large cities, dates back to 1829, when it was first used in London. It came to be recognized that an adequately filtered water supply was safe as regards disease. Then Koch showed why safety was secured by proving that filtration removed 98 per cent of the bacteria.[9] Since then the widespread provision of safe water supplies has brought about remarkable declines in the incidence of the water-borne diseases particularly cholera and typhoid fever, and water purification methods have been further improved by chemical and mechanical means.

Milk and food sanitation, industrial hygiene, better housing, insect and rodent control, and better disposal of human wastes all have played important parts in helping to speed the decline of communicable disease.

These are some of the important reasons why mortality and morbidity from the communicable diseases have been re-

duced. What has been the result?

At the turn of the century, New Orleans with a population of 287,104, had 8,287 deaths, or a rate of 28.9 per thousand. New Orleans still showed a considerably higher death rate than the country as a whole, although its death toll had been markedly reduced since 1855. In 1950, with a population of 570,445, New Orleans had a total death rate of 10.8 per thousand. In 1952, the latest year for which we have complete records, the total death rate for the State of Louisiana was 8.9 per thousand. For that year, there were only 15 States which had lower death rates than Louisiana, while 32 States had higher death rates.

In 1900, this country had a population of about 76,000,000 persons. It is estimated that there were 1,300,000 deaths that year of which 560,000, or over 40 per cent were caused by communicable disease. These figures represent a total death rate of 17.2 per thousand, and a death rate from communicable disease of 7.4 per thousand. In the middle of the twentieth century, with a population of 150,000,000 there were nearly a million and a half deaths in the United States with a total death rate of nearly 10 per thousand. Of these about 150,000 were from communicable disease or a rate of about 1 per thousand.

One hundred and fifty thousand deaths from communicable disease is still a formidable total. It is more than four times as great as the total of all highway accidents. One rarely reads a newspaper without seeing a story calling attention to the wasteful deaths from automobile accidents. On the other hand one hardly ever reads a newspaper article pointing out the needless deaths from communciable disease.

Today, communicable disease still kills one out of every 10 persons who die. In the older age groups, this ratio is smaller, being about 1 in every 12 deaths. However, in those under 30 years of age, these diseases account for 1 out of every 4 deaths.[10] These are preventable deaths which cost this country dearly in life and productivity.

It is important that there has been such a marked decline in the death toll from communicable disease. It is obvious that this phenomenon has led to an increase in longevity. It is equally apparent that one of the results of the declining mortality from communicable disease has been to create an "older" population in this country. This, in turn, has brought about an ever increasing recognition of the importance of the chronic and degenerative diseases.

It is almost beyond comprehension to realize that there are 5,300,000 Americans today who suffer enough from one or another of these chronic diseases to require long-term care, and that there are another 20,000,000 people who have minor or nondisabling chronic diseases or impairments requiring short-term care.[11] Yet, in our compassion for these sufferers, let us not forget that the communicable diseases still present a formidable problem.

And it must also not be forgotten that control of the communicable diseases means control of certain of the chronic diseases. In the control of heart disease, the number one cause of death today, there are not too many things which can be done specifically, once the disease has been firmly established. However, effective control of streptococcal infections bids fair to reduce the number of cases of rheumatic heart disease by preventing the occurrence and recurrence of rheumatic fever.

In spite of the efficacy of penicillin, syphilis still causes the death of several thousand persons annually. Most of these are due to the late forms of the disease, which could be prevented by effective treatment of the early stages.

Tuberculosis is still an important cause of death in this country, with preventable deaths occurring in the chronic stages which could be decreased in number by effective control of the acute infections and prevention of their spread to others.

Many of the great epidemic killers, like cholera and yellow fever, which have been eradicated from this country, need only the eternal vigilance of surveillance in

order to permit emergency control measures in case they should be re-imported. Other important diseases like diphtheria, whooping cough, and syphilis need more effective application of presently known control measures in order to make them fit candidates for total eradication. Still other diseases, and these constitute the largest class of all, require the development of control measures before we can do much about them. The common cold and infectious hepatitis are representatives of this category.

The communicable diseases most certainly have not been conquered in this country. Progress has been made, it is true, but there remains a considerable job still to be done. It is difficult to say how much time and effort will be required to accomplish the task, but it is safe to predict that it probably will not be done in our lifetime. Even when deaths from communicable disease decrease to an insignificant number, there will be a need to carry on a considerable amount of effort to prevent the occurrence of cases of communicable disease, and there will always be a demand for the surveillance of the old conquered diseases, as well as a continuing necessity to solve new disease problems as they arise.

SUMMARY

The year 1955 is the hundredth anniversary of the establishment of the Louisiana State Board of Health. One of the impelling reasons for initiating this Board was the occurrence of epidemics, particularly those of yellow fever. In the century which has passed since then, marked reduction has been made in the death toll from communicable diseases. However, they have not yet been conquered because they still cause mortality and morbidity of considerable importance.

REFERENCES

1. The Legislative Digests of the House of Representatives and Senate of the State of Louisiana. 1854.

2. Postell, W. D.: The medical societies of Louisiana prior to the war between the States, New Orleans M. and S. J. 93:65 (August) 1940.

3. Matas, R.: Torn leaves from the dead foliage of medical Louisiana. Bull. of the Med. Lib. Assoc. 30:433 (October) 1942.

4. Report of the Sanitary Commission of New Orleans on the Epidemic Yellow Fever of 1853. Published by authority of the City Council of New Orleans. 1854.

5. 1856 Report of the Board of Health to the Legislature of the State of Louisiana. January 1857.

6. Dublin, L. I., Lotka, A. J., and Spiegelman, M.: Length of Life. Revised Edition. The Ronald Press Company, New York, 1949.

7. The Encyclopaedia Britannica. Vol. 17, p. 358. The University of Chicago. 1947.

8. Winslow, C. E. A.: Man and Epidemics. Princeton University Press. 1952.

9. The Encyclopaedia Britannica. Vol. 23, p. 425. The University of Chicago. 1947.

10. Bauer, T. J.: The communicable disease problem in the U. S. To be published in the J.A.M.A.

11. The Care of the Long-Term Patient. Pub. Health Rep. Vol. 69, No. 6, p. 553 (June) 1954.

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HISTORY OF LEPROSY IN LOUISIANA *

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Reliable evidence concerning the first appearance of leprosy among the colonists of the Southern States is lacking. The scarcity of available medical data containing the sources and dates of the early cases of leprosy in Louisiana prevents the writer from presenting the historical facts in an orderly chronological manner. Several papers have been written on this subject by well known authors; but one is struck by the lack of sound evidence to support some of the statements, which apparently are copied without verification from earlier writings, or which result from rumors and gossip having been committed to print, thus making them appear as truth. Here in Louisiana as elsewhere throughout the world, there has been an ever present and frequently successful attempt to hide individual cases from detection and recording.

The earliest description of leprosy in the South drawn from observations appear to be that given by Romans [1] wherein he states:

"A loathsome disease appears among the negroes—The leprosy, so-called, whether the same as was the cause of proscription to the unhappy

* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 3, 1955.

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patients under the Mosaic laws, I shall not pretend to determine. Certain it is, that it is a nauseous, loathsome and infectious disease, with the loss of beard, and hair from the eyebrows, swelling of the lobes of the ears; the face begins to shine and brown protuberances appear thereon; the lips and nose swell to monstrous size, the fingers and toes will in the end drop off and the body becomes at last—a miserable object of pity."

Romans makes reference to the occurrence of leprosy in the province as early as 1758. Gayarré[2] gives this account:

"Leprosy was then not an uncommon affection in Louisiana. Those who were attacked with this loathsome infirmity generally congregated about New Orleans where they obtained more abundant alms than in any other part of the colony."

Here is evidence that leprosy was present in this state, especially among the negroes, at a very early date. Historical records, however, are not sufficiently definite to allow one to decide where this leprosy originated. It is therefore necessary to review briefly the history of leprosy from early times, especially as it has been known in the United States.

The early history of the disease in Louisiana is confused by the fact that elephantiasis or Grecian leprosy, or syphilis and various other skin diseases often were mistaken for leprosy. Historians concede that leprosy was known to the ancient Egyptians, Indians, and Chinese. Leprosy has existed in Africa from time immemorial, especially in Egypt and Nubia.[3] It is also found on most of the African seacoasts and in many inland districts, especially in the vicinity of the great rivers Niger and Congo. It spread over the whole of Europe like an epidemic during the Middle Ages, especially about the period of the Crusades. From the 12th to the 17th century of the Christian era leprosy prevailed most extensively over much of the civilized world. A very extensive system of hospitals or lazarettos was established all over Europe and it was only about the middle of the 18th century that the disease disappeared from the North of Scotland.[4] Shortly after the disease vanished from the United Kingdom[5] and began practically to disappear from the other countries of Western Europe, it began to occur or increase in the Scandinavian Countries, particularly Norway, and for a century constituted one of the serious medical problem of Scandinavia.[6]

It is assumed that leprosy did not exist in the New World (Western Hemisphere) until after the arrival of Columbus and that it was brought by individuals who had become infected in the older European foci. Later cases were introduced from highly endemic areas in Africa through traffic in slaves. The African slave trade was actually begun in 1442 by the Portugese, fifty years before the discovery of America by Columbus. African slavery was introduced into South America and existed in Mexico, the Antilles, and West Indies long before LaSalle established the first French Colony on the shores of the Gulf of Mexico in 1684. In 1687, LaSalle was murdered and his settlement destroyed by the Indians.[7]

In 1517, Charles I of Spain authorized the introduction of African slaves from the coast of Guinea into the Island of Santo Domingo at Haiti.[8] The importation of negroes into the West Indies and America, having once begun, gradually increased to gigantic proportions. Sir John Hawkins was the first Englishman who engaged in the slave traffic, and such was the ardor with which other Englishmen followed his example that more than 300,000 slaves were exported to the New World from Africa between the years 1680 and 1700; and another 610,000 Africans were imported into Jamaica alone between 1700 and 1786. The importations by other nations, particularly the French and Portuguese, were also very large. Leprosy was brought to South America as early as 1543, and soon thereafter a leprosarium was established in Colombia. Cartagena, Colombia, became the center of the slave markets for the Spanish Main, and here in 1573, the first white man of prominence was diagnosed as having leprosy.

Leprosy established itself on the Island of Jamaica prior to 1687. Sloane, in 1687, stated that leprosy was introduced into the West Indies from Africa and southern Europe at a very early date. Towne in his *Treatise of the Diseases Most Frequent*

in the West Indies, published in London in 1726, speaks of leprosy as no rare thing to be met with among the negroes. This is further verified by Grainger[9] who in 1802 wrote: "Although the white people in the West Indies are not exempted from this dreadful calamity (leprosy) the negroes are most subject thereto."

The first settlement in the province of East and West Florida was founded in 1699 at what is now Ocean Springs, Mississippi, by Iberville, and in 1711, the present city of Mobile was founded. New Orleans was founded by Bienville in 1718. Slave traffic to these settlements was started in 1719. By 1732 the colony was crowded with over two thousand slaves who brought with them all types of pathologic conditions including leprosy. During the subsequent years, new cases continued to be imported by the close and intimate relations with the French Colonies of Santo Domingo, Haiti, Martinique, and the Spanish West Indies where leprosy had been indigenous long before its appearance in Louisiana.[10, 11]

To the south of Texas leprosy was known to exist in the early part of the 16th century. In Mexico, less than fifty years after the discovery of America, Cortez opened a hospital for sick soldiers, many of whom were reported as being afflicted with leprosy.

European countries sent or permitted individuals with leprosy to emigrate without restriction to their new possessions. Spain permitted them to go to the countries south of us; France permitted them to go to Louisiana; and Norway allowed them to emigrate to New York from whence they traveled to Illinois, Iowa, Wisconsin, Minnesota, and the Dakotas.

The earliest important Norwegian emigration to America occurred during the summer of 1825, when 52 men set sail in a 40 ton sloop from Norway. They reached New York in October 1825 and settled in the western section of the State.

The next mass emigration from Scandinavia took place in 1836, and upon reaching the United States these emigrants proceeded straight to the Fox River region in Illinois. By 1838 Scandinavian settlers were moving into Wisconsin and during the late 1840's into Iowa. By 1852, settlements were being made in Minnesota which was destined to become the State most heavily populated by them. The Norwegian settlers entered the Dakotas after 1860. By 1864 leprosy created a great deal of interest among the physicians in Minnesota when a total of 12 cases were found, 10 of whom were infected when they entered the country.

In 1869, a visiting Norwegian scientist found 18 cases in Iowa, Wisconsin, and Minnesota. Nine of these individuals admitted having the disease on their arrival in America and five others came from families who had the disease in Norway.

In 1887, Dr. Gerhard Hansen, who in 1874 discovered the acid-fast bacillus which is believed to be the cause of leprosy, wrote to the State Board of Health in Minnesota that not less than 52 from among 3,000 known cases of leprosy in Norway had emigrated to America in the hopes that in the United States the disease could be cured. When, in 1888, Hansen visited the region of the upper Mississippi Valley he found that no less than 100 individuals with leprosy had come from Norway to live in the 5 States of this area. He failed to find a single case of the disease acquired within these States.[12]

In 1899, Hansen[13] wrote: "From 1856 to 1895 some 5,000 odd cases of leprosy were reported in Norway. Of these 5,000, approximately 3,400 cases were segregated in leprosaria. Only 287 were known to have emigrated and of these only 170 to North America."

A record of the cases of leprosy has been kept in the State of Minnesota since 1888. In 1900, Bracken[14] wrote: "It does not seem that all parts of the country are favored as are Minnesota and the adjoining States where not a single American-born leper is to be found even among the descendants from a leprous parent." This claim was soon disproved when it was found that a young male of Norwegian ancestry born in Minnesota in 1870 died of leprosy in 1898. Symptoms of the dis-

ease first appeared in him in 1885. His brother, born in Minnesota in 1879, developed symptoms of leprosy about 1889. Subsequently, 6 more cases of leprosy in American-born residents of Minnesota were uncovered by the State Health Authorities. Of these 6 cases, 3 appeared in one family.

In 1906, 6 new cases were reported. By 1912 only 18 cases remained in Minnesota, and of these, 17 were in leprous families. At this time Bracken [15] stated, "We have no record of leprosy occurring outside of the family of a leper in Minnesota and we know of many cases where with a leper in the family, no other cases of leprosy appear."

Between 1912 and 1921, only 5 new cases were reported. In 1921, 3 cases were reported in Scandinavian immigrants, and 1923, 2 Finnish immigrants were reported as having leprosy. There have been no new cases of leprosy among American born in Minnesota since 1922, excluding 10 out-of-state residents reported by the Mayo Clinic. Up to 1948, a total of 108 cases of leprosy had been officially reported in Minnesota,[12] of whom 8 were American born.

On our Pacific shore, both in California and Oregon, there were many cases imported from Mexico, China, and the Philippines. Out of a total of 524 patients diagnosed in California between 1920 and June 1953, 51.5 per cent were born in Mexico, 13.3 per cent in the Philippines, and 7.5 per cent in China. Only 27 cases were considered as California-contracted cases.

It is thus evident that a large number of cases of leprosy have been imported into America during the past 235 years. Spain, at the time of her colonization of the southern portion of North America, had many cases of leprosy within the home kingdom, some of whom migrated to Mexico and the Gulf States. Her island colonies in the Spanish Main also served as distributing foci in their intimate commercial relations with our continent. This implantation still survives with considerable activity in the West Indies and the maritime countries south of us.

Portugal, too, scattered some of her cases of leprosy from her colonies over many of the Islands off the Atlantic, and our sailor population has kept up constant intercourse with these foci.

From Africa we drew a large number of cases of leprosy as a result of our importation of negroes from heavily infested areas, but with the cessation of the slave trade we were relieved from this source of danger.

France also permitted cases of leprosy to emigrate without restriction to her new possessions. Frantz [16] in his book on *Colonization of the Mississippi* writes: "Prisoners were set free in Paris in September 1719, under condition that they would marry the lowest type of woman and emigrate. They were chained and dragged to the port of embarkation." There is also considerable evidence to show that sick slaves and others may have been landed on the LaFourche and Terrebonne Bayous and Islands adjacent to Louisiana when they were refused entrance to the State by health officers. This was much easier than to return them to their place of embarkation.

It is also interesting to note that when in 1719 the notorious John Law [17] reorganized his "Western Company" to make it the "Company of the Indies", he imported 250 Germans to work his estates. Leprosy had not been entirely eradicated from Europe at that time. Thousands of other desperate Europeans, especially the war-worn peasantry of the small German states, sought to escape on John Law's ships from the eternal conflicts, the economic abuses, and the long famines of Europe. They died by the thousands in the French ports, in the crowded ships, on the sand beaches of the Gulf Coast, and in the swamps and along the banks of the Mississippi River; yet many survived and others followed them in such numbers that a German-language newspaper and a German troupe performing farces and short plays were formed. Louisiana was the first State in the union to have a genuine Liederkranz, a German

singing club. Just what part these Germans played in the importation of leprosy into Louisiana is not known.

We now come to the controversial portion of our discussion, as to whether the Acadian refugees brought leprosy from Canada to Louisiana. In 1880, Jones,[18] then President of the Board of Health of Louisiana, after considerable research regarding the existence of leprosy in New Brunswick, Canada, stated that without a doubt, at least a portion of the leprosy existing in the State could be traced to the early French settlers in Canada.

In the Acadian Story by Griffin[19] no mention is made about leprosy existing among these people prior to their deportation from Grand Pré by Governor Lawrence in 1755. The population of Nova Scotia was then well over 10,000. Of these, 6,000 were deported in 1755. Some 3,000 made their way into the country to the north, and many escaped to the woods. There were probably another 10,000 Acadians living in neighboring provinces. It is estimated that as many as 18,000 were uprooted from their homes.

The Acadians were crowded on ships, with many of the families being separated, and then were shipped to the ports of New Haven, Boston, New York, Baltimore, Philadelphia, Charleston, and Savannah. Of the twenty-odd ships consigned to New England ports, four never reached their destination. Of those destined for Philadelphia, one perished at sea with its cargo of captives, two others were driven by winds to Santo Domingo. As soon as the group assigned to Georgia arrived, Governor Reynolds decreed their banishment. With incredible courage and perseverance some reached New York and Massachusetts, but on order of pitiless Governor Lawrence, their boats were confiscated and they themselves again were thrown into captivity. Virginia also refused to permit the landing of 1500 Acadians whom Lawrence sent to the shores of that province. The Captains of the ships that carried these people were ordered to take them to England. From there many of them went to France where some remained, and others were sent to French and Spanish colonies in the West Indies. The earliest official record of Acadian arrivals in Louisiana is April 4, 1764, when 4 families numbering 20 persons arrived in New Orleans. Between January 1 and May 13 of the following year 650 Acadians arrived in New Orleans from Santo Domingo. There remained in 1765, however, 3500 families of Acadians scattered in French ports, and this number was augmented in 1766 by the return of others from Guiana. These families were finally offered asylum in central France, and finally on the Estate of M. de Peyrusse, in the section then known as Anjou. It was these Acadians who were enlisted by the Spaniards in 1782 to settle in Louisiana to join the Acadians who had already found their way there. The Spaniards also found other groups elsewhere in France and by 1784 many Acadians families were awaiting ships in the port of Nantes, to be brought to Louisiana. Many families arrived here in 1785 from their European refuges because their predecessors had found safety, religious freedom, and happiness in Louisiana. By 1790 they numbered 4,000 and by 1900 between 40,000 and 50,000.

There is no historical evidence to support the often repeated assertion that the Acadians brought leprosy from Canada to the Colony of Louisiana. Smith[20] in his report to the International Dermatological Congress stated that leprosy first developed in Cape Breton, Nova Scotia, among the immediate descendants of Scotch emigrants from the Hebrides, who arrived in Canada about 1810; and according to Page,[21] leprosy was first discovered in New Brunswick in 1815. The disease established itself to such an extent that a hospital was built in 1844 to which 32 cases were admitted. In 1849, a leprosarium was established at Tracadie. Between 1844 and 1951, a total of 319 cases were admitted to the hospital and to the leprosarium in New Brunswick.

Leprosy in Louisiana unquestionably dates to a period much earlier than 1764 when the first four Acadian families ar-

rived. There is no doubt that leprosy was introduced into Louisiana by slaves imported from Africa and by the early settlers from Spain, France, West Indies, and probably Mexico. Furthermore, it should be noted that leprosy was so prevalent by the time the first Spanish Governor of Louisiana, Antonio de Ulloa, arrived in 1766 that he attempted to prevent its spread by isolating the cases and holding them at Balize near the mouth of the Mississippi River.

When Miro became governor in 1785 one of his first measures was the establishment of a hospital for leprosy patients in the rear of New Orleans between the river and Bayou St. John. In the course of a relatively few years the number of patients gradually diminished, either as a result of their deaths or their removal from the hospital, and the disease apparently almost disappeared. The hospital was abandoned in 1807 and the neglected buildings then went to ruins.[22]

Subsequent sporadic cases attracted little public health interest until 1872 when Jones[18] noted the increasing importance of leprosy in certain parishes of Louisiana. In Vermilion Parish a woman whose father came from Southern France, began to show symptoms of leprosy about 1866. She died in 1870 leaving four sons; three of the sons developed leprosy during 1871 and 1872 at the ages of 18, 22, and 30 years respectively. There were also two daughters, one of whom was reported to have leprosy. These children all lived in Abbeville where their mother had resided. In 1875, the disease appeared in a nephew living eight miles from Abbeville. It also affected a young woman who had constantly nursed the mother during her last illness. She developed the first symptoms during 1873. A young man who frequently slept with the fourth son during the year 1875 developed leprosy in 1877.

In 1880, the State Board of Health carried out several epidemiological surveys because of an alarming increase in leprosy cases, especially on the banks of the lower LaFourche. A sufficient number of cases were found to excite earnest attention of the authorities charged with educational, sanitary, and legislative affairs of the State. Dr. Jones felt that it was the duty of the State to provide for the maintenance of the victims of leprosy and that the practice of sending leprosy cases to the already overcrowded wards of Charity Hospital should be discontinued.

In 1888, Blanc[23] reported that he had seen 42 cases of leprosy in five years of dermatological practice in New Orleans. Most of these cases were in natives of Louisiana, but their parents were mainly emigrants from Germany and Ireland. In 1892, he reported that he had seen a total of 84 cases in his practice since 1883.

In 1894, the Indian Camp Plantation at Carville was obtained as a suitable site for a home. In August 1894, the State Legislature passed the act to provide for the care and treatment of persons afflicted with leprosy. On November 30, 1894, the first contingent of leprosy patients (8 of them) were transported via coal barge at night from the "Hagan Avenue Pest House" to their new home at Carville. For a time the existence of the home was threatened by the inhabitants of Iberville parish but a rational judgement supplanted an early misguided prejudice.

About a year after the opening of the home, the Board of Leprosy Control realized that the patients were not receiving sufficient attention and requested the Sisters of Charity to care for them. Four Sisters volunteered their services and came to Carville to stay with the patients. The Sisters took up residence in the Old Colonial Home of the abandoned plantation, while the patients were housed in the old slave cabins.

In 1900, the State Legislature appropriated a sum of money sufficient to purchase a site and build a leprosarium nearer New Orleans so as to make it more convenient for administrative purposes. Such a site was selected in Jefferson Parish. However misguided residents of the area who strongly opposed the transfer of patients to this home, burned the buildings. The site was sub-

sequently abandoned. The Louisiana leprosy home at Carville continued to serve the state until January 3, 1921. At that time the Federal Government purchased the institution and assumed its custody. As a unit of the U. S. Public Health Service Hospital system, it became the National Leprosarium.[24]

It is noteworthy to relate that, in 1904, Dyer reported that formerly only the parishes of Orleans, LaFourche, and St. Martinsville were known centers of leprosy infection, but by 1897 there were 20 parishes situated mainly in the southern half of the State which had developed cases of leprosy. By 1935, an additional 12 parishes were added.

Since the establishment of the National Leprosarium at Carville in 1921, patients have been admitted from 39 of the 48 states and from the District of Columbia. A majority of the patients (80.2 per cent) came from the States of California, Texas, Louisiana, and New York, and of these 43.5 per cent were of foreign birth. A total of 661 patients from Louisiana alone were treated in the hospital at Carville from November 30, 1894, to January 1, 1955. These, together with 33 cases not treated at the hospital, make 691 known cases of leprosy in Louisiana since November 30, 1894.[25]

SUMMARY

From the above discussion it is evident that the early cases of leprosy in America came principally from Africa and Europe, and later from Asia. The majority of the imported cases in the Gulf States entered from Africa, the West Indies, and Mexico; in the Upper Mississippi Valley from the Scandinavian Countries; in the West Coast States, from Mexico, Asia, and the Islands of the Pacific; and, in the Atlantic Coast States, from Europe, Africa, and the West Indies. With the exception of Florida, Louisiana, and Texas, the three Gulf States, which are generally described as endemic states, the majority of the leprosy cases in America have occurred in foreign-born individuals.[26]

There is no civilized country which does not have its quota of imported cases, but with rare exceptions the disease shows no tendency to spread. This relative immunity of certain parts of the world is well exemplified in the United States where there have long been two main foci of the disease; one in the Upper Mississippi Valley, chiefly in Minnesota; the other in the Gulf States of Louisiana, Florida, and Texas. Here we see one outstanding difference since in the former, the disease shows a tendency to extinguishment, while in the latter, new cases are found frequently in the native-born individual.

In Europe the disease has practically disappeared from Norway but it remains prevalent in Africa where it is widespread. In Asia, also the disease is very prevalent. There India leads with more than an estimated million cases, Japan has 40,000 cases, and China has untold hundred of thousands of untreated cases. In South America the disease is still very prevalent, with an estimated 100,000 cases in Brazil, 30,000 cases in Colombia, and probably 12,000 cases in Argentina.

The reason that leprosy has not spread through the Upper Mississippi Valley is to this day not clear. We still do not know the exact nature of the complex transmission of leprosy, a problem that can be solved only by much more intensive research.

Isolation has always been considered one of the most important factors in the decline of leprosy in Europe and elsewhere, but isolation in the strictest sense was never practiced in the North Central States. Normal family relations were maintained, and in no account is there a record of one marriage partner transmitting the disease to the other.

Some authors have suggested a vector as a transmitting agent and therefore Minnesota's climate with its severe winters and hot summers may in some way be unfavorable to such a vector. We can not be assured, however, that leprosy does not spread in the colder northern climate. Leprosy is believed to be a communicable disease and, therefore, we must admit that when all of the factors necessary for its transmission are present new cases will

develop regardless of race, color, climate, or country. Hansen[13] and Gronvold[27] believed strongly that the improved hygiene of the Norwegian settler was paramount in the defeat of leprosy in this area.

The mysterious spontaneous disappearance of leprosy from Western Europe during the 14th, 15th, and 16th Centuries and from the North Central States during the decades of the 19th Century gives us hope that progress in attaining knowledge of this disease will alleviate the fate of many native Louisianians. Such knowledge will throw a new light on the fascinating riddles of the past and relieve the sufferings of some 4,000,000 to 5,000,000 patients of South America, Asia, Africa, West Indies, and the Islands of the Pacific.

REFERENCES

1. Romans, B.: Concise Natural History of East and West Florida, N. Y.: 255-257, 1776.
2. Gayarré, Charles E.: History of Louisiana under the Spanish Domination (1765-1802), Redfield N. Y. Vol.1: 166 et seq; 1854.
3. Rogers, Sir Leonard and Muir E.: Leprosy 3rd ed., Baltimore, Williams & Wilkins Co., 1946.
4. Simpson, J. Y.: Antiquarian notices of leprosy and leper hospitals in Scotland and England, Edinburgh M. and S. G., 56:301, 1841.
5. Mac Arthur, W.: Mediaeval leprosy in the British Isles, Internat. J. Leprosy 21:218, 1953.
6. Lie, H. P.: Why is leprosy decreasing in Norway? Tr. Roy. Soc. Trop. Med. & Hyg. 22:357, 1929.
7. Fortier, Alcée: History of Louisiana, Vol. II: 94, 1914.
8. Jones, Joseph: Leprosy in insular and continental America, N. O. M. and S. J. 5:673, 1878.
9. Grainger, James: Essay on the More Common West Indies Diseases, Edinburgh 1802.
10. Biever, Rev. A. H.: The Jesuits in New Orleans and the Mississippi Valley, S. J., p. 20.
11. Martin, F. X.: The History of Louisiana from the Earliest Period, Vol. II.
12. Washburn, W. L.: Leprosy among Scandinavian settlers in the Upper Mississippi Valley, Bull. Hist. Med. 24:123, 1950.
13. Hansen, G. A.: St. Paul M. J. (Apr.) 1899: pp. 243-247.
14. Bracken, H. M.: St. Paul M. J. (Dec.) 1900.
15. Bracken, H. M.: P. H. Reports. 27:945, (June 14), 1912.
16. Frantz, H.: Colonization of the Mississippi. Leipzig, 1906.
17. Carter, Hodding: John Law Wasn't So Wrong, Esso Standard Oil Co. Baton Rouge, La. 1952.
18. Jones, Joseph: Fevers, Medical and Surg. Memoirs, A. W. Hyatt, New Orleans. 2:1210, 1877.
19. Griffin, H. L.: The Acadian Story, Depart. of Commerce and Industry, Baton Rouge, Louisiana. 1955.
20. Smith, A. C.: New York Medical Journal. p. 197, 1897.
21. Page, J. D.: Leprosy in Canada, Canadian M. Assoc. J. 14:824, 1914.
22. Martin, F. X.: The History of Louisiana from the Earliest Period, Vol. II.
23. Blanc, Henry W.: Leprosy in New Orleans, L. Graham & Son Printers, New Orleans. 1888.
24. Faget, G. H.: The Story of the National Leprosarium. Public Health Reports 57:641, 1942.
25. Meyer, W. H.: Modern Approach to the Public Health Aspects of Leprosy, J. Louisiana State Medical Society. 106:413, 1954.
26. Badger, L. F.: History of Leprosy in the United States, Ann. New York Acad. Science. 54:6, 1951.
27. Gronvold, Chr.: Public Health in Minnesota. 2:45, December 1886.

THE INFLUENCE OF RESPIRATORY INFECTION ON CARDIAC DISEASE *

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SHREVEPORT

It has been clinically recognized that respiratory infections such as colds, bronchitis, and influenza, although often minor in their own manifestations, precipitate congestive heart failure in persons suffering from heart disease. The comparatively minor course of the respiratory infection bears little relationship to the severity of the precipitated congestive failure. A great deal of the mortality following respiratory infections is among persons with heart disease. Conversely, it might be said that much of congestive failure is directly attributable to preceding acute respiratory infections.

It is not within the scope of this paper to discuss heart failure of primary pulmonary origin or cor pulmonale. Excluded from this paper are chronic type emphysema, fibroid lung, pneumonoconiosis, vascular disorders of the lungs and kyphoscoliosis.[1] In this group it is immediately recognizable that acute respiratory infection superimposed on the pre-existing pulmonary disease precipitates a very high percentage of congestive heart failure.[2] An attempt will be made to correlate the frequency of congestive failure in persons with primary heart disease either known or unknown previous to onset of congestive failure. The variability of symptoms associated with respiratory infections complicates the selection of cases for a review such as this. To be included in the group under consideration it was required

* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 3, 1955.

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that there be a definite history of three or more of the symptoms usually associated with acute respiratory infection. These included coryza, sore throat, fever, chilliness, headache, and gastrointestinal symptoms.

The following tables represent a breakdown of 75 cases of congestive failure admitted to the Willis Knighton Memorial Hospital during the past eighteen months. For the purpose of this study only primary admissions are used.

Table 1 represents a breakdown of these cases according to etiology, sex, and age grouping.

Ninety-seven per cent of these cases were either hypertensive or arteriosclerotic and were about evenly divided between the two. The number of deaths in each group was identical.

Table 2 shows cases with pre-admission histories of respiratory infections. These cases are also broken down into sex and age groupings.

Table 3 represents the deaths among these patients. The fact that none of these cases represented re-admission should be kept in mind when evaluating these statistics.

From this analysis it is found 28 or 37.3 per cent of 75 cases of congestive failure were immediately preceded by respiratory infections. Flint[3] in reporting an analysis of 300 cases reported 156 or 52 per cent were preceded by respiratory infections. It is also apparent from the deaths in this group that those patients who developed cardiac failure without apparent precipitating cause had a higher mortality than those attributed to respiratory infections. The widespread early use of antibiotics probably plays a big part in lowering this mortality.

Two approaches to the problem of prevention of this group of cardiac failure patients becomes evident. First is the possible prevention of respiratory tract infections; however, as this so frequently has an onset as the "common cold" such is not possible insofar as any specificity is concerned. The second approach is to try to gain an understanding of the mechanisms by which such infections produce an added burden on the circulation.

Changes in salt and water metabolism, disturbed osmotic pressure and apparent increase in plasma volume which may occur in pneumococcal pneumonia have been

TABLE 1

Etiology	Sex		Age Groups				Total
	Male	Female	0-25	25-50	50-70	70-Over	
Arteriosclerotic	L. 21	10		4	16	13	31
	D. 2	2			2	2	4
Hypertensive	L. 16	14		2	18	10	30
	D. 3	1			3	1	4
Rheumatic	L.	3		1	2		3
	D. 2				1	1	2
Congenital	L. 1		1				1
						Total	75

TABLE 2
PRE-ADMISSION HISTORY

	Male	Female	Age				Total	%
			0-25	25-50	50-70	70-Over		
Respiratory Infection	15	13		2	12	14	28	37.3
No Respiratory Infection	31	16	1	3	29	14	47	62.7

TABLE 3
DEATHS ACCORDING TO AGE

	Under 70	Over 70	Total
Respiratory Infection	1	1	2
No Respiratory Infection	5	3	8

considered as possibilities in less severe respiratory infections. Studies by Kowalski, Rutstein and Reynolds on 17 healthy medical students with acute upper respiratory infections were along these lines. Their observations failed to reveal changes in levels of erythrocytes, hematocrit, hemoglobin, serum electrolytes, urine, Evans blue space, thiocyanate space and body weight. They concluded that their findings showed no changes which might lead to an explanation of the occurrence of congestive failure.[4] The question as to whether changes occurring in healthy young adults would be the same as a person suffering with cardiac pathology immediately becomes apparent.

Whether the factor precipitating cardiac failure is one simply of increased work on an overburdened heart as a result of general metabolic changes occurring in respiratory infections such as elevation of temperature, increased respiratory effort or rate, effects of toxins on the myocardium, or whether failure results from chemical changes within the circulation or cardiorespiratory system remains to be proved. Further studies in the line of etiological factors are certain to be forthcoming.

CASE REPORTS

The following 3 cases are shown to illustrate three different patterns. The first, an onset of failure in a known hypertensive with no previous cardiac distress. Second a case of congestive failure in a known case of arteriosclerotic heart disease. The last demonstrates the insidious onset of congestive failure during the course of a respiratory infection.

Case No. 1. This 61 year old white male has been followed as an out patient since 1952, at which time he was found to have a blood pressure of 230/110 during a routine physical examination. At that time electrocardiographic and x-ray studies were within normal limits. During the next three years his blood pressure ranged from 150/90 to 170/90 and he was symptom free.

February 4, 1955 he was seen in the office complaining of a cold manifested by sneezing, cough, and slight elevation of temperature for two days. Physical examination revealed the following pertinent findings: Temperature elevation to 101°, blood pressure 160/90, respiration 18, pulse 82. Heart and lung examination was negative. Electrocardiographic tracing was essentially the same as previously and within normal limits. He was advised to enter the hospital but refused and was given antibiotic in the form of penicillin and tetracyline and told to stay in bed and report by phone daily.

The patient did not report until three days later when he sought admission to the hospital because of weakness and pain in his left chest. He stated that he had continued at his work in spite of daily elevation of temperature to 101° since his last visit to the office.

Examination revealed an acutely ill male complaining of left chest pain. Temperature 98, respiration 22, pulse 102, blood pressure 148/76. Heart enlarged to left with irregular rhythm, no murmurs were noted by the examiner. Lungs—moist rales in both bases with increase in breath sounds over the left lower chest anteriorly. Electrocardiograph tracing revealed absolute arrhythmia with absence of P waves: Interpreted as consistent with auricular fibrillation. X-ray revealed some increase in the size of the heart since previous examination of June 4, 1954, (with enlargement of thoracic aorta). There were increased markings in both lower lung fields consistent with passive vascular congestion and a fairly well defined homogeneous density in the mid-lung field at the level of the third anterior rib which was consistent with an area of pneumonitis.

On the night of admission the patient's temperature was elevated to 102° and his condition was considered as critical. Therapy consisting of tetracyline, digitalis, and supportive nasal oxygen was followed by steady improvement and he was discharged from the hospital on the fifteenth day.

This case serves to illustrate the onset of failure during a respiratory infection not considered by the patient severe enough to necessitate following medical advice. There is no doubt that failure to heed advice played a part in the ultimate severity of this case.

Case No. 2 This 56 year old white male was referred for study January 1954 because of elevation of blood pressure found on routine physical examination. Prior to this time he had been normatensive insofar as he knew.

Examination revealed an obese white male, blood pressure 180/110. General physical examination essentially normal. Electrocardiogram revealed flattened T_1, and T_3, with deep Q_3 and interpreted

as suggestive myocardial ischemia and coronary sclerosis. X-ray of chest negative. Blood cholesterol 237 mgms. per cent.

He remained symptom free and blood pressure remained within normal limits during the next twelve months. January 1, 1955, he entered the hospital with a complaint of severe substernal pain radiating through to back. Serial electrocardiograms revealed flattened T_1, T_2, T_3, Tv_4, Tv_5, and Tv_6, in keeping with myocardial ischemia secondary to coronary insufficiency. He remained in the hospital three weeks after which time he was discharged home. Three weeks later he developed an acute respiratory infection with an onset of chill and elevation of temperature to 101°. He improved on bed rest, tetracycline and symptomatic therapy for three days. On the fourth day he suddenly became dyspneic and very weak. On admission to the hospital examination revealed an anxious, acutely ill male. Blood pressure 130/90, temperature 101°, and respiration 24, pulse 100. There were moist rales in both lung bases that cleared slightly after coughing. Heart rate 100 per minute, regular with no murmurs, heart enlarged to percussion in all diameters. Electrocardiogram revealed sinus tachycardia (low QRS amplitude) flattened T_1 and T_2. Evidence of myocardial ischemia. Dyspnea and heart size decreased on regime of bed rest, nasal oxygen, and digitalization.

The patient was discharged after three weeks hospitalization and has been symptom free since that date. This case clearly illustrates the onset of cardiac failure in a patient following respiratory infection in spite of early and adequate treatment for his respiratory infection.

Case No. 3 is used to illustrate the onset of failure eleven days after respiratory infection. This case demonstrates how the patient with no previous knowledge of cardiac pathology might easily misinterpret the symptoms of congestive failure as a continuation or exacerbation of a recent respiratory infection. Such cases may result in disaster to the patient in waiting too late to seek necessary advice. This also presents one of the obvious pitfalls in attempting to prescribe for patients with apparently simple respiratory infections by phone without the benefit of a complete physical examination.

Case No. 3. This was a 64 year old male seen first in the office with a history of head cold eleven days before, associated with rather severe sore throat and elevation of temperature not above 100°. After three days rest at home he returned to his job as shipping clerk. His cold apparently continued to improve until three days before when he developed a nonproductive cough. This was followed in two days by nocturnal dyspnea and for this reason he decided to seek medical advice. The past history was negative for cardiovascular disease of any type. Examination revealed blood pressure 180/110. Heart enlarged to percussion, gallop rhythm with no murmurs noted. Lungs revealed rales at both bases. No pedal edema noted.

Electrocardiogram showed inverted T_1, T_2, T_3, Tv_4, Tv_5, and Tv_6, left axis deviation. Tracing interpreted as evidence of myocardial disease in keeping with hypertensive heart disease. X-ray of chest showed cardiac enlargement with congestive changes bilaterally. This patient responded well to digitalization, bed rest, and low salt intake.

SUMMARY

In summary, it is evident that in a fairly large percentage of cases of congestive failure respiratory infections serve as the precipitating cause. It is therefore evident that all respiratory infections in patients with known cardiac damage should be considered as potentially dangerous and treated early and vigorously, if possible. Further, in all cases of congestive failure the possibility of an underlying respiratory infection must be suspected and sought for. Because of the fact that the evidences of respiratory infection may be masked by the symptoms and signs of myocardial failure, one must not accept the obvious, and should proceed with a careful search for an underlying precipitating factor of infectious type. The appropriate therapy directed at the underlying respiratory infection if present, instituted early, is most important in the treatment of congestive failure. Recognition of respiratory infections as a precipitating cause rather than a terminal event in congestive failure may materially lower the mortality in failure especially during the winter season.

REFERENCES

1. McMichael, John: Heart failure of pulmonary origin, Edinburgh M. J. 55:65 (February) 1948.

2. Flint, F. J.: Circulatory Pulmonale, Incidence and etiology in an industrial city, Lancet 2:51 (July 10) 1954.

3. Flint, F. J.: Factor of infection in heart failure, Brit. M. J. 2:1018, 1954.

4. Kowalski, H. J., Rutstein, D. D., and Reynolds, W. E.: Cardiovascular studies during upper respiratory tract infection in normal structures, Am. J. Med. Sci. 228:275, 1954.

TREATMENT OF ALLERGIC EMERGENCIES *

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SHREVEPORT

Allergic emergencies are relatively rare considering the high incidence of allergic diseases, but there is no doubt that they are increasing as a result of drug reactions; especially those following the injection of penicillin and other injectable antibiotics. Every physician should be familiar with the management of these cases because prompt treatment can be the determining factor between life or a fatality. Despite the addition of many new drugs to the available armamentarium, the mortality rate from these emergencies is increasing alarmingly. A critical evaluation of the present methods of treatment is clearly indicated.

The following conditions will be considered: status asthmaticus, angio-edema and urticaria, serum sickness, anaphylactoid reactions and contact dermatitis.

STATUS ASTHMATICUS

Status asthmaticus is a severe asthma which persists for twenty-four hours or longer and is not relieved by epinephrine or similar drugs.[1] The causes of an attack of this type are numerous and do not come within the scope of this paper. Since epinephrine does not afford relief, spasm of bronchial musculature is not an important feature. The pathologic changes to be considered are edema of bronchial mucous membrane, bronchial or bronchiolar mucous plugs and dehydration.

Treatment: Someone facetiously remarked, "Asthmatics seldom die without the aid of a physician." This exaggerated statement should be a warning not to overtreat.

Treatment should be symptomatic as well as specific. During the state of emergency, elimination of known or suspected causes of the attack should be carried out. Other specific measures must of necessity be postponed until the acute symptoms have subsided; consequently, they will not be discussed.

Symptomatic Treatment should be directed along the following lines:

1. *Reassurance, Rest* and *Sedation:* Every patient in status asthmaticus is apprehensive and fatigued, which is often made worse by the excitement of family and friends. Reassurance, calmness and deliberate action on the part of the physician usually have a beneficial effect. This alone may suffice to break the vicious cycle and little or no other treatment may be needed. In many instances, additional measures will be needed and it is best to hospitalize the patient. This removes the patient from environmental factors, which may be extremely important, and at the same time affords the physician an opportunity to carry out necessary procedures without excitement. Little things are important. Even the proper adjustment of the hospital bed may contribute much to the comfort of the patient.

Mild Sedation is usually beneficial. Barbiturates are excellent if one is positive that sensitivity does not exist. If in doubt, chloral hydrate is the drug of choice since sensitivity to it is extremely rare. Aspirin is very beneficial. It not only allays pain and discomfort but relieves edema. If the patient is sensitive to aspirin and related drugs, amidopyrine should be substituted. Drugs which suppress cough and cause drying of the bronchial mucous membrane should not be used. This includes all narcotics as well as demerol. It is well known that these drugs have contributed greatly to the increased mortality rate from asthma.

2. *Fluids, Water-electrolyte Balance, Nutrition* and *Diuresis:* Every asthmatic soon learns that the intake of food or water causes an increase in dyspnea; consequently, if the attack has been long the paradox of general dehydration with bronchial edema exists. Most of the symptoms are caused by bronchial edema and mucus plugs. Dehydration causes mucus plugs to become more tenacious. It is evident that both conditions must be treated. At the same time nourishment should be

* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 3, 1955.

furnished. It is estimated that a patient in severe asthma will lose 2500 cc. of fluid per twenty-four hours in the form of sweat, water vapor, and urine[1]. To replace this loss, 1000 cc. of fluid should be given intravenously every eight hours until the patient is able to take fluid orally. At the same time edema must be combated. Edema is not a problem of water. It is a problem of salt and, more specifically, sodium.[2] During the acute attack a patient in status loses large quantities of salt through sweating. He takes very little or no salt by mouth. Most writers recommend 5 per cent dextrose in distilled water for the treatment of status asthmaticus.[1, 3-5] I believe that this is a mistake. In my opinion, 10 per cent dextrose should be used to restore acid-base equilibrium, to restore glycogen in liver and to stimulate diuresis. Unless the patient is taking cortisone or ACTH, it should be given in physiological saline. This replaces salt previously lost and prevents salt dilution from the additional fluid being given. Aminophylline, 0.25 (3¾ grains), should be added to the infusion. I seldom use 0.5 gram (7½ grains) as it frequently causes great discomfort. The action of aminophylline is debatable. Apparently it is a diuretic and is very efficient in relieving bronchial edema. In addition to these diuretics, I usually give acetazoleamide (diamox), 250 mg., daily. Before this drug was available, I did not hesitate to give mercurial diuretics. As soon as the patient is able, foods and liquids are given orally. The foods should be soft and those that are known to be tolerated well by the patient. Liquids should not be iced.

3. *Oxygenation of Blood—Removal of Mucus Plugs:* Oxygen should be used if the patient is cyanotic. It is best given by nasal catheter rather than by oxygen tent. The oxygen tent often gives the patient the sensation of being shut in. When oxygen is given it should be humidified and at room temperature. The concentration should be about 30 per cent and should not exceed 40 per cent. As you know, oxygen in strong concentration may cause the patient to go into a coma due to carbon dioxide retention in tissues.[1, 4] Respiration may be depressed for the same reason. Oxygen in strong concentration may also cause the removal of nitrogen from the paranasal sinuses and middle ears producing a vacuum type of pain. It may cause tracheal and bronchial irritation.

Oxygenation of blood is best accomplished by relieving edema, which has been discussed, and by removal of mucus plugs. Supplying adequate fluids facilitates the removal of mucus plugs. This can be enhanced by the use of iodides. The iodide ion is excreted by the bronchial mucosa which is accompanied by a weeping or bronchorrhea. This causes the plugs to be less tenacious, allowing them to be coughed up. I prefer to give potassium iodide in doses of 20 drops to a teaspoonful of saturated solution in water three times daily, but syrup of hydriodic acid or sodium iodide may be used.

4. *Other Measures:* By definition, status asthmaticus is not relieved by epinephrine and similar drugs. This is not because the patient is "epinephrine-fast" but it is due to the fact that bronchiolar spasm is not an important feature of the case. Later in the course of treatment epinephrine may be very useful. I believe the maximum dose should not exceed 0.2 cc. of 1:1000 dilution. It may be repeated often, but when the patient has blanching about the mouth, a coarse tremor of hands, or both, full therapeutic effects are being obtained and additional epinephrine will only add to the discomfort of the patient.

Isopropylarteronal (isuprel, isonorin, aludrine) by aerosol is said to be effective in some cases even though epinephrine does not afford relief. My experience with this drug has been limited and the results not encouraging. Certainly, infection should be treated as soon as it is recognized but antibiotics should not be given unless there is a definite indication.

ACTH and cortisone are seldom needed in the treatment of status asthmaticus. Both are dangerous drugs and should not be used promiscuously. In rare instances they may be indicated. ACTH is the drug

of choice. It acts more quickly than cortisone. However, it should be remembered that ACTH may produce anaphylactic shock or urticaria and angio-edema. It has other undesirable effects and should be discontinued as soon as possible. Cortisone, even in small doses, may produce adrenal atrophy. These symptoms usually subside in about three weeks but at times they may become alarming and may persist for a much longer period of time. Adrenal cortical atrophy causes one to stand stress poorly which is bad for an asthmatic.

5. *Common Procedures Which Should Be Avoided:* Antihistamines are contraindicated because of the drying effect on the bronchial mucous membrane which causes mucus plugs to become more tenacious.

Ether and oil by rectum is advocated by many, however, the patient has difficulty in retaining it. The amount which will be absorbed is uncertain and there is always danger of producing a severe burn. After extensive trial in my own practice several years ago, I was impressed by the fact that it frequently did more harm than good.

Aminophylline, orally or by rectum, should not be used in the treatment of status. The rate of absorption and the amount of absorption are too indefinite. However, aminophylline by rectum may be very useful in preventing nocturnal attacks of asthma.

Bronchoscopic removal of mucus plugs is seldom necessary if the procedures outlined above are followed. If removal of mucus plugs is done in this manner the results are usually disappointing.

Fever production with piromen, typhoid bacilli and other forms of foreign protein is of little or no value and there is danger of producing a severe reaction in an acutely ill subject.

The intravenous administration of procaine, alcohol, and epinephrine is too dangerous to warrant discussion.

Thorazine is being given extensively to allay nervousness in patients with status asthmaticus and other forms of allergy. In view of the fact that it may produce shock, jaundice, fever, grippe-like symptoms, and dermatitis, its use for cases of this type seems to be premature and is to be deplored.

Oxygen and helium increase cost to the patient and are not superior to oxygen alone.

ANGIO-EDEMA AND URTICARIA

Angio-edema and urticaria are considered together since the pathogenesis is the same. Angio-edema occurs in deep tissues; whereas, urticaria occurs in the outer layers of the cutis. The two conditions may occur together or they may occur separately. The causes of these conditions are varied. They are true allergic phenomena. Nervousness and emotional stress may be contributing factors but not the cause. The most common causes are: foods, drugs, infections, intestinal parasites, trichinosis, malaria, and occasionally inhalants, contactants, and physical agents. It is not within the scope of this paper to go into detail concerning the determination of etiological factor nor, is it within the scope of this paper, to discuss mild cases. We are concerned with the relief of severe attacks which may be of short duration or of long duration.

The first problem is to relieve edema, itching, burning, and pain. Epinephrine (1:1000) is the drug of choice. It should be given subcutaneously in small doses, usually not more than 0.2 cc. It may be repeated often. Blanching about the mouth or a coarse tremor indicates full therapeutic effect and the drug should not be repeated until these symptoms subside. Ephedrine and ephedrine-like drugs may be beneficial and may prolong the effects of epinephrine. If the case is of short duration the antihistamines may be beneficial since they frequently relieve subjective symptoms and may relieve edema. If the case has persisted for several hours or more it is my experience that antihistamines are almost valueless.

As soon as epinephrine has been given, 1000 cc. of 10 per cent dextrose in physiological saline is given slowly, intravenously. Aminophylline, 0.25 gram (3¾ grains),

should be added because of its effect on edema. This is repeated every eight hours. Cold starch or aveeno packs are applied to the body. As soon as the infusion is completed, a cool starch or aveeno bath may be more beneficial than packs. If tolerated, aspirin is given at frequent intervals. Amidopyrine should be substituted if the patient cannot tolerate aspirin. Barbiturates should be given if tolerated; if not, chloral hydrate should be given. Within a relatively short time a saline laxative is administered. Acetazoleamide (diamox), 250 mg., should be given.

Food and drugs to which the patient is known to be sensitive should be avoided. A soft diet is given and the patient is encouraged to eat sweets.

ACTH and cortisone have been used extensively during the past few years. ACTH is the drug of choice, although occasionally it increases symptoms. As previously mentioned, both drugs are potentially dangerous and should be used only after due consideration.

Procaine administered intravenously is quite effective in relieving urticaria and angio-edema but it is dangerous. It may cause a sudden vasomotor collapse and death.

The sodium salt of dehydrocholic acid (decholin sodium) has been recommended for the treatment of urticaria, angio-edema and serum sickness. It is given orally and intravenously. I have given the oral preparation to patients with mild urticaria and have not observed beneficial effects. I have not given the drug intravenously to urticarial patients because in using it for circulation time I found it not unusual to get a severe constitutional reaction.

SERUM SICKNESS

The treatment of serum sickness is the same as that outlined for urticaria and angio-edema. It is mentioned separately because of its frequent occurrence following penicillin injections. It may appear after the first dose of a drug. It is thought that antibodies, formed soon after the drug is injected, unite with some of the drug remaining in the tissues.[6] A previous sensitizing dose is not needed; consequently, skin testing is of no value in predicting which person will develop serum sickness.

ANAPHYLACTOID REACTIONS

Severe systemic reactions to drugs or allergenic extracts occur within a few minutes after administration. For this reason the cause is usually known. Such a reaction may occur following the injection of most any drug and it sometimes occurs following the oral administration of a drug. Penicillin and allergenic extracts account for the majority of severe reactions.[3] The reactions can be prevented. A skin test can be done with penicillin, using 10 units of penicillin per cc.[7] because antibodies are in the blood from a previous sensitizing dose. Care in the dosage and administration of allergenic extracts will prevent reactions from this source.

Treatment should be carried out immediately but without excitement. If the drug was injected into an extremity, apply a tourniquet above site of injection. Inject 0.2 cc. of epinephrine (1:1000) in opposite arm. Inject 0.2 cc. at site of injection of drug to cause vasoconstriction and delayed absorption of drug. Repeat the injection of epinephrine every twenty minutes if necessary for relief. An antihistamine should be given intravenously. Benadryl in doses of 60 to 100 mg. is very effective or decapryn in doses of 20 to 60 mg. This should be followed in a short time by aminophylline, intravenously, 0.25 gram, given slowly. Patients who go into shock and become cyanotic should be given oxygen. They should have intravenous fluids such as dextrose, blood or plasma.

CONTACT DERMATITIS

Contact dermatitis is not often an emergency but when it does become acute it can be very troublesome and the patient can be very uncomfortable. Treatment consists of cool baths, intravenous dextrose in physiological saline, antihistamines, aspirin, barbiturates and sometimes ACTH or cortisone.

SUMMARY

A conservative plan of treatment for status asthmaticus, angio-edema and urticaria, serum sickness, anaphylactoid reactions and contact dermatitis has been outlined. It has been suggested that 10 per cent dextrose in physiological saline be used in the treatment of these conditions rather than 5 per cent dextrose in distilled water which is in common usage. The reasons for this change are discussed.

Objectionable methods of treatment in common usage are mentioned.

REFERENCES

1. Sheldon, J. M., Lovell, R. G., and Matthews, K. P.: A Manuel of Clinical Allergy, Philadelphia, W. B. Saunders Co., 1953.

2. Berger, E. Y., and Steele, J. M.: Electrolyte and water metabolism: Physiologic consideration, M. Clin. N. America, 829, (May) 1952.

3. Talmage, D. W.: Treatment of Allergic Emergencies, M. Clin. N. America, 63, (Jan.) 1954.

4. Burrage, W. S., and Irwin, J. W.: Treatment of Bronchial Asthma, M. Clin. N. America, 1269, (Sept.) 1952.

5. Carryer, H. M., and others: The treatment of status asthmaticus, M. Clin. N. America, 969, (July) 1954.

6. Urbach, E., and Gottlieb, P. M.: Allergy, New York, Grune & Stratton, 351, 1949.

7. Feinberg, S. M., Feinberg, A. R., and Moran, C. F.: Penicillin anaphylaxes, nonfatal and fatal reactions, J. A. M. A. 152:114, 1953.

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RIDLEY LENS IMPLANT; CASE REPORT *

C. B. FLINN, M. D.
MONROE

In March 1952, Harold Ridley's report of 27 cases in which he re-placed the cataractous lens with an acrylic plastic lens, stirred the imagination of all ophthalmologists who had ever performed a simple cataract extraction. Here was the answer to the enlarged image that so regularly disappointed the aphakic patient despite perfect vision as a consequence of a flawless technique. The operator may have attempted to explain this phenomenon prior to surgery but the obvious disappointment and period of adjustment was usually necessary, nonetheless. This new operation offered a possible way to achieve binocular vision through a lack of aniseikonia. The heavy lenses and the decreased field of useful vision would be unknown.

With this in mind the following case was carefully selected and the permission to do a somewhat experimental procedure was obtained:

CASE REPORT

E. Z. M. colored female age 75 years, was first seen April 30, 1953, and gave a history of gradual decrease of vision for the previous two years. There had been no pain, no redness of the eyes and no history of injury or chronic systemic disease. She denied any symptoms such as chronic cough, allergy, or bleeding tendency. Her family physician reported her blood pressure to be 110/70, and heart and lungs were normal. No abnormal findings were reported from the examination of blood which included serology, and urine.

Vision at this date was, right eye: light perception only with good light projection and red-green vision; left eye 20/100 and Jaeger 14 at 6 inches. Corrective lenses added little except to give better near vision. Slit-lamp examination showed the right lens to have a completely mature cataract and the left lens to be immature. The intra-ocular tension was 16 mm. mercury in both eyes by the Schiotz tonometer.

By October 13, 1953, the vision in the left eye had dropped to 20/200. Operation on the right eye was advised and scheduled for October 22, 1953. Conjunctival cultures were negative but the patient was given an antibiotic ointment to be used in the right eye three times a day for one week prior to surgery.

A standard extra-capsular linear extraction was done, except for a careful removal of as much of the anterior portion of the capsule as possible, followed by irrigation. Peripheral iridectomy and pre-placed black silk continuous corneal-scleral sutures were used. The acrylic lens, sterilized in zepheran solution and rinsed in saline, was introduced by forceps and teased into position with an iris repositor. Eserin and aureomycin ointments were used in the dressing.

There was no complaint of excessive pain so atropine was not used until November 4, 1953, when the sutures were removed. At this time evidence of an iritis plus pigment and cellular deposits on the acrylic lens was noted. The cornea was clear and only mild flare was present. Cortisone suspension was added to this medication in the form of drops.

On December 16, 1953, the pupil was so nearly occluded that it was necessary to introduce a Zeigler knife and actually "scrape" the plastic surface and separate a few posterior synechiae. Cortisone and atropine were continued and the pupillary area remained relatively clear.

January 6, 1954: Best vision obtained with a

* Presented at the Seventy-fifth Annual Meeting of the Louisiana State Medical Society, New Orleans, May 4, 1955.

minus 4.00 diopter cylinder axis 115, was 20/50.

May 5, 1954: The eye was quiet though pigment deposits remained on the lens and a few keratitic percipitates appeared on the corneal epithelium. With a plus 1.00 sphere combined with a minus 3.50 cylinder axis 110, vision was 20/30 plus.

DISCUSSION

Obviously, this is not the safest procedure in cataract surgery. The patient was senile and would have had some reaction with this type of extra-capsular removal, but this was certainly a combination of lens material and foreign body reaction. The unusual amount and axis of the astigmatism may have been due, in part, to a tilting of the plastic lens, although it appeared perfectly placed by microscopic examination. The patient is happy with the present acuity and has never complained of distortion or magnification of objects.

Ridley, reporting 60 cases before the Academy, in Chicago, October 1952, stated that 50 per cent of his patients had 20/30 or better vision. This does compare favorably with other and much larger series of the old extra-capsular operations. Five of Ridley's cases have had a difference in refraction of 4 diopters or more, proving that aniseikonia was not always eliminated.

Subluxation of the plastic lens was not listed as a complication, although it may conceivably be one. One writer, through fear of this, has devised a stainless steel wire attachment to be left imbedded in the cornealscleral wound.

It may well be that in the future a more innocuous plastic material may be developed and a more accurate method of placement of the lens may be found, but until that time the Ridley operation should be reserved for the selected case who must undertake a great risk to gain a very small advantage. This advantage is further reduced by the lower average visual acuity obtained.

REFERENCES

1. Ridley, H.: Intraocular acrylic lenses: A recent development in the surgery of cataract, British J. Ophthal., 36:113, 1952.

2. Roeth, A., Sr.: Ridley's cataract operation, Am. J. Ophthal., 31:1568, 1953.

3. Pahwa, J. M.: Recent advances in Ophthalmology, Indian J. Ophthal., 14:7.

DISCUSSION

Dr. George M. Haik (New Orleans): The use of the Ridley acrylic implant in cataract surgery became known to both profsesion and public in America by way of articles in the lay press. Scientific observations in British medical journals became available shortly afterward, but the introduction was unfortunate. It is the exceptional ophthmologist who, since then, has not been importuned by patients with cataracts who have heard of the operation by way of these popular articles or who, later, saw it on television and who want it performed on themselves.

To date I have acceded to none of these requests, and it is with a good deal of hesitancy that I rise to speak about an operation which I have not performed and which, unless I suffer a complete reversal of convictions, I am unlikely to perform.

Mr. Ridley's recent report, which concerns some 140 cases, might seem to convince the most skeptical of the value and safety of this procedure, but I remain unconvinced. When Dr. Vail, in 1952, discussed Mr. Ridley's remarks before the American Academy of Ophthalmology, he said that he was agreeable to being called a reactionary because he opposed the operation. He paid tribute, as we all must, to the ingenuity, courage and skill of the author, and to his scientific integrity. He felt, however, that in spite of Mr. Ridley's remarkably successful run of cases—now double the number he reported then—this was still an operation "of considerable recklessness." In his opinion the hazards still far exceeded the little to be gained in the way of ocular comfort for the patient and the questionable advantage of obtaining binocular vision at such a risk.

I am afraid I am in complete agreement with Dr. Vail. As he says, there are enough complications in the classical operation to keep us awake at night. Futhermore, to quote Goar, a cataract operation is a major procedure to both patient and surgeon, and one to be undertaken only after careful and prayerful consideration.

The Ridley implantation operation, as Mr. Ridley specifies, must not be performed by the intracapsular technique. In 7 of the 10 cases in which he used this technique, the implant, although it was inserted without difficulty, underwent spontaneous and usually gradual dislocation into the base of the vitreous chamber. In 3 of 8 cases in which the posterior capsule was removed accidentally in the course of planned extracapsular extraction the same accident happened, but more promptly.

These results convinced Mr. Ridley that intracapsular extraction and implantation of his acrylic lens were not compatible. He now limits the use of the lens to the extracapsular technique.

His experience in 140 odd cases has been that when the posterior lens capsule has not been damaged at operation, the lens, in the absence of trauma, will remain in place.

What interests me most in Mr. Ridley's reports is the complications he lists. In his 1952 address before the American Academy of Ophthalmology he stated that 90 per cent of his cases had progressed smoothly. In his 1954 report, while he does not state specific figures, he seems to be continuing what I can only term the same run of luck. He has had no instance of sympathetic ophthalmia in his series; most of us could not hope to be so fortunate. He has, apparently suffered only three really serious postoperative complications, as follows:

1. Iritis. This he considers the result of surgical trauma and, perhaps, leaving a little cortex adherent to capsular tags. I am interested that Dr. Flinn's patient suffered this complication, and that he regards it as due to a combination of foreign body reaction and the presence of lens material. Ridley's experience convinced him that fair vision might be expected within a month, and good visual acuity within three months, in the majority of cases in which this complication appeared.

2. Occlusion of the pupil. This is a result of a dense inflammatory membrane, which is particularly prone to develop if the pupil has been allowed to constrict. It is managed by secondary surgery when iritis has ceased to be active. The results of division of the membrane and the use of mydricaine and cortisone were dramatic in Ridley's cases, vision of 6/12 usually being attained within a week, with further improvement to be expected later.

3. Glaucoma. The slight temporary rise of tension encountered in a few cases readily responded to miotics, and a drainage operation was necessary in only 1 case, in which the original cataract surgery had been extremely defective. Secondary glaucoma encountered in 4 other cases responded to peripheral iridotomy.

This is a highly favorable picture. Dr. Flinn's patient emerged well from her complicating iritis. But proof is still lacking that acrylic implants are harmless. This proof can come only with the passage of time and with histologic study of eyes in which the procedure has been carried out. Few such reports now exist, and these have attracted little attention. In 1953, Dr. Theobald was able to examine such a specimen. It showed an inflammatory reaction in the iris and connective-tissue membrane, in answer, as she expressed it, to the "insult" of the irritating acrylic lens which had been implanted several weeks earlier. This and similar reports should be recollected when the temptation arises to use the Ridley technique.

I think all of us will agree with Mr. Ridley that correction of an aphakic eye by the ordinary spectacle lens has grave disadvantages. The image is unnaturally magnified. Acuity is good only through the optic center of the lens. Oblique views cause distortion and apparent displacement of objects. The usual visual field is limited. Finally, accommodation is minimal. With the implantation technique accommodation is not improved, but otherwise, according to Mr. Ridley, the acrylic lens restores natural sight throughout the full visual field, sight which is often as good as that of the normal presbyopic eye in which accommodation has been lost. In his experience many patients prefer binocular vision, with acuity of 6/12 or thereabouts, to better uniocular vision in one or the other of an incompatible pair of eyes. Dr. Flinn has mentioned that his patient is happy with the acuity achieved for her.

Mr. Ridley's present feeling is that the implantation technique he has devised is, to use his own term, "unrivaled" for uniocular cataract and may well prove to be the ultimate treatment for it, chiefly because binocular vision is restored. Its advantages in senile cataract are more debatable because the ordinary classical operation supplies the two things patients most need, namely, the ability to go about alone and the ability to read. In his latest report he says that only time will tell whether in cases of bilateral cataract the optical, cosmetic, and psychologic advantages will outweigh the disadvantages of extra complications and slower recovery of sight as compared with the classical technique. He thinks that the evidence to date already points to this conclusion. He warns, however, that when this operation is used, both surgeon and patient are playing for higher stakes, and that faults are more heavily penalized than they are when plain extraction is done.

All of this is no doubt true. I congratulate Dr. Flinn on the end results he has secured. None the less, I shall continue, for the present, at least, to hold to Dr. Vail's policy: Even if patients are willing to take the chance that this operation may hold for them, I am unwilling to submit them to it, for they can have no true conception of its real hazards.

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The Journal of the LouisianaState Medical Society

Established 1844

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SUBSCRIPTION TERMS: $4.00 per year in advance, postage paid, for the United States; $4.50 per year for all foreign countries belonging to the Postal Union.

News material for publication should be received not later than the eighteenth of the month preceding publication. Orders for reprints must be sent in duplicate when returning galley proof.

Manuscripts should be addressed to the Editor, 1430 Tulane Ave., New Orleans, La.
The Journal *does not hold itself responsible for statements made by any contributor.*

YELLOW FEVER AGAIN THREATENS THE SOUTHERN HALF OF THE UNITED STATES

"Wherefore, let him that thinketh he standeth take heed lest he fall." (I Corinthians 10:12). This quotation from Scripture applies accurately to the attitude towards yellow fever in the southern half of the United States. The threat that now exists is one concerning which we should all take heed lest we fall into a series of epidemics and disasters which yellow fever has produced in this geographical area through many centuries.

The spectacular work of the Yellow Fever Commission in the latter part of the last century produced a clear cut picture of the transmission of the disease in this area. The practical application of these findings was demonstrated by Gorgas, in preparing for construction of the Panama Canal. Following this, the six day incubation period of the disease provided time for inspection and quarantine to exclude the entrance of persons carrying yellow fever into the United States and thus prevent the reappearance of urban epidemics. This was possible even though the disease-carrying domestic mosquito, *Aëdes aegypti,* was prevalent throughout the area formerly subject to epidemics. This situation of comparative security was not disturbed, even though the airplane shortened travel time, and many travellers passed beyond quarantine before the expiration of the six day incubation period. The reason for this was that there was no yellow fever to bring in except from the west coast of Africa, and possibly, from some areas in Brazil. An urban epidemic of yellow fever appeared in Rio de Janiero in 1928-1929. Following this, energetic measures on the part of the Brazilian government eradicated the *Aëdes aegypti* mosquito from that country. In the meantime, the whole yellow fever situation has been altered by a series of developments, not previously anticipated, and now the situation is one of much concern.

It appears that jungle or sylvan yellow fever has existed in portions of Central America, possibly Colombia, for countless ages, and that in 1948 a wave appeared to originate in eastern Panama, and has been moving westward and northward through Central America since that time. Recognition of this type of yellow fever has depended upon a variety of researches and has been made possible by the identification of the typical lesion of yellow fever in the liver, such that it may be recognized in monkeys dying in the areas

concerned. The vector in this sylvan yellow fever is not the *Aëdes aegypti*, which is a domestic mosquito living in and around towns and human habitations, but a variety of forest mosquito spoken of in the area as the "blue mosquito," breeding in trees below the 2000 foot contour, and apparently providing the means for the production of epizootic activity and epidemic outbreaks. The theory is advanced that the disease has been active in this fashion in the jungle areas of Central America through the ages. Epidemics are described in the Malayan Empire before the days of Cortez. Invasion of the country by Europeans brought the *Aëdes aegypti* providing the means for extensive urban epidemics. Following this, presumably, the urban and the forest areas reinfected each other to produce urban-sylvan and sylvan-urban transference of the virus. This condition prevailed until the modern era of sanitation and epidemic control.

Sylvan yellow fever appears to have been subject to periods of quiescence and activity concerning which there is not complete understanding at the present time. The present wave has been advancing at the rate of approximately 160 miles per year.[1] Its advance into Costa Rica, Nicaragua, and Honduras, was predicted and has already been proven accurate. Progression into Guatemala is anticipated for the current year. In four years more the wave is expected to reach the area just north of Vera Cruz. Panama, Nicaragua, Costa Rica have been declared free of *Aëdes aegypti*, but from there north the picture changes. Small infested areas are found in El Salvador and Honduras, and a much larger one in Guatemala. The *aegypti* infested area continues southerly along all of the Atlantic and Pacific coastal regions of Mexico, jutting into the United States where as yet there is no campaign to eradicate the *Aëdes aegypti* mosquito.

Obviously, if sylvan disease advances to points along the Gulf of Mexico, where *Aëges aegypti* is prevalent, epidemics become possible. The traveller contracting the disease in the forest area may transmit it to any *Aëdes aegypti* infested zone. A line drawn from Yuma, Arizona, to the northeastern corner of New Mexico, then across the country to the Atlantic at the boundary between North Carolina and Virginia, marks the northern limit of the presence of the urban yellow fever mosquito in the United States. That embraces the whole southern third of the country which has been declared by the U. S. Public Health Service as a "receptive area" (i.e., open to the introduction and transmission of yellow fever.)

Specimens of the "blue mosquito" that transmits the sylvan yellow fever have been found within 300 miles of the northern Mexican border in the Mexican state of Tamanliepas, which borders on Texas. Obviously the disease may be feared along the eastern coast of Mexico and the threat of its spread into the receptive area is one of grave concern. Two recovery cases in human patients are recognized in the vicinity of La Ceiba, Honduras, in August 1954. There were 213 cases of yellow fever in the San Juan de Dios, Hospital, San Jose, Costa Rica, in 1951-1952, with 56 deaths.

It is stated that control of this situation will require greater energy and greater research than is now being displayed. It is impossible to eradicate the sylvan form of disease. Accordingly, protection of the population in this area will be possible only through vaccination. Protection of travellers by vaccination is feasible. Prevention of the urbanization of the disease in the United States could be accomplished with certainty only through eradication of the *Aëdes aegypti*. Energetic measures accomplished this in Brazil whose area is greater than ours. Prevention of infestation of our vast mosquito population can only be accomplished by its destruction, and this should be done before 1958.

Elton states that during the period of viremia man is infectious to mosquitoes and that in man the virus is usually neutralized before the fourth day of the dis-

ease. Death or recovery depends upon the severity and rapidity of the involution of the liver lesion and the development of a hemoglobinuric nephrosis. Infection is followed by hepatitis, which is histologically typical; this, in turn, by a prothrombin deficiency and hemorrhagic diathesis. Hemoglobinuric nephrosis is followed by oliguria, anuria, and uremia. Mild infections may exist and some infections may be inapparent. The mortality in the white population of Costa Rica in classical cases was 27.6 per cent. Death occurred from the fourth to the twenty-seventh day, with the majority on the sixth to the eighth.

From these various considerations it would appear that the threat of yellow fever returning to the Southern States exists, and that among the measures by which this may be prevented, a most important one is eradication of the *Aëdes aegypti* in this area.

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[1] Elton, Norman W.: Anticipated progress of yellow fever in Guatemala and Mexico, 1955-1959, Am. J. Pub. Health 45:923, (July) 1955.

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The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

NATIONAL LEGISLATION

Again with Congress closed and many members in their home districts, I want to suggest that you get in touch with them. Let them know how the profession feels about certain legislation—and why . . . Defense Department (see S. 2720) has presented Congress with a revised bill for the medical care of military dependents, a subject that is likely to get serious consideration next session. American Hospital Association also has offered its dependent care plan, with emphasis on Blue Cross.

CONGRESS CLOSES FIRST SESSION WITH MANY HEALTH BILLS PENDING

The 84th Congress wound up its first session August 2 after a last-day compromise on a grants bill to aid states in paying for Salk vaccine programs through next February 15. Three days previously Senate and House finally agreed on $30 million for financing of inoculations, just half what the Senate originally had voted.

Adjournment found two medically important bills at the half-way mark in Congress: the Hill-Bridges $90 million grants bill for construction of research facilities (passed the Senate and pending in House Interstate Committee) and the Democratic-sponsored national compulsory disability insurance plan (passed the House and pending in Senate Finance Committee) . . . Still before committees but with hearings completed are: Jenkins-Keogh tax deferment bills and federal aid to medical education.

Other bills facing Congress on its return in January: aid to nursing education, dependent medical care, contributory health insurance for federal workers, mortgage guarantees for health facility construction, reinsurance of voluntary health plans, military medical scholarships and practical nurse training. Health bills, President Eisenhower reminded a press conference, should be handled as soon as Congress comes back.

NEW SENATE LEGISLATION

S. 2588 (Humphrey, D-Minn., July 20). **Deduction for Income Tax.** Would amend 1954 Internal Revenue Code to permit a married man the same income tax deduction as a woman for certain expenses incurred for the care of his children while his wife is physically or mentally incapable of caring for them. As with women under present law, care would have to be to enable the taxpayer to be gainfully employed.

S. 2720 (Russell, D-Ga., & Saltonstall, R-Mass., by Request, July 30). **Dependent Medical Care.** Introduced at Pentagon's request as a broader substitute for S.934 and H.R. 2685. The Assistant Secretary of Defense in the transmitting letter of July 30, said further technical improvements "in all probability may be proposed such for example, as the coverage of widows and the dependents of deceased military personnel and the extent to which military personnel may be authorized on their own option to move in and out of insured status."

This legislation would incorporate basic recommendations of the 1953 Moulton Committee. It would authorize medical care for dependents of members of Armed Services (as implemented by regulations of Secretary of Defense and approved by President): (a) in military medical

facilities subject to availability of space, facilities and capabilities of medical staff; (b) through an insurance plan; (c) using civilian medical sources for dependents not participating in insurance plans, provided no military medical facilities are available to such dependents. Definition of Dependent: "Dependent" is restricted to wife, unmarried children under 21 and over 21 if mentally or physically incapacitated and in fact dependent on member for over half support, and parents and parents-in-law if in fact dependent for over half their support. A husband must be dependent upon wife for over half his support to qualify as a dependent. Secretary of Defense would establish charges for subsistence and "necessary" charges for outpatient care in military facilities. Insurance plan charges would be apportioned between Federal Government and members of Armed Forces, with member's contribution not exceeding 30% of monthly cost nor a maximum of $3.00. Secretary would establish schedule of maximum fees and costs for civilian licensed physicians and facilities and dependent would be required to pay 30% of the first $100 plus 15% of the remainder of the cost of inpatient care and 30% of cost of outpatient care. For protracted illness, dependent could be transferred to military medical facility or Secretary of Defense could "take such other appropriate action" to alleviate the hardship.

Excluded would be hospitalization for domiciliary care, chronic diseases and chronic mental and nervous disorders. Also excluded would be provisions for prosthetic devices, hearing aids, orthopedic footwear and spectacles, ambulance service and home calls except in emergency and special cases as determined by physician. In remote areas government could furnish at cost if prosthetic devices were available. Mental treatment would be restricted to emergency care, except in remote areas. No dental treatment through civilian dentists at Government expense would be permitted, except as a "necessary adjunct to medical or surgical treatment."

Dependent medical care would be limited to "diagnosis; treatment of acute medical and surgical conditions; treatment of contagious diseases; immunization; and maternity and infant care."

Secretary of Defense would be authorized to promulgate regulations to fix charges "to implement this legislation fairly, and to prevent excessive demands for medical care." It would be a "basis in law for the needs . . . during peacetime and in times of national emergency." The estimated annual cost, using 2,204,500 dependents as of December 31, 1954 as a basis, would be $76,000,000.

NEW HOUSE LEGISLATION

H.R. 7602 (Keogh, D-N. Y., July 26). **Income Tax Deduction for Charitable Contributions.** The bill has three provisions: (a) money donated to voluntary health insurance plans would be deductible before payment of income, gift or estate taxes; (b) Benefits received from voluntary health plans would be deductible for income tax purposes; and (c) the cost of coverage under voluntary health plans would not be deductible for income tax purposes.

H.R. 7608 (Priest, D-Tenn., July 26). **Mortgage Insurance for Nursing homes.** Would authorize Federal mortgage loan insurance for construction of nursing homes. Provisions are substantially those of Title II of Administration's Omnibus Health Bill (S. 886 & H.R. 3458) except that insurance would be restricted solely to mortgages on nursing homes, both nonprofit and proprietary. **Interstate and Foreign Commerce.**

H.R. 7621 (Rains, D-Ala., July 26). **Food for Hill-Burton Hospitals.** Would provide state health agencies food subsidies for Hill-Burton hospital patients.

H.R. 7792 (Vinson, D-Ga., Aug.1). **Dependent Medical Care.** Identical with S. 2720 (see above).

ACTION

Treaty of Friendship . . . with Germany. On July 27, by a vote of 83 to 0 the Senate ratified the Treaty with Germany favorably reported to the Senate by its Committee on Foreign Relations on July 19. The Senate was advised the treaty omits previous objectionable features regarding the practice of certain professions (medicine included) "which might have required changes in some State laws." Senator Green explained the Committee was assured that the pending treaty does not impair "the Constitutional rights of American citizens or alter established Federal-State relations or enlarge Federal powers at the expense of the States." Nationals of both parties to the treaty shall have the same treatment under sickness, old age, disability or unemployment social security laws where means tests are not involved.

S. RES. 134 (Green) **Atomic Fallout.** The Senate on July 18 adopted the resolution directing the chief U. S. delegate to U. N. to collate radiological information from various States.

H.J. Res. 256 (Priest) **Mental Health Study.** This measure became Public Law 182 when the President signed the bill July 28. Federal grants would enable recipients to coordinate efforts in nation-wide study of mental illness.

H.R. 483 (Short) **Commissioning Osteopaths in the Military.** Senate Armed Services Committee on July 28, turned over to a subcommittee of Smith (Me.), Symington (Mo.), and Jackson (Wash.), this measure "for further study", thus eliminating the possibility of further action this session.

H.R. 2559 (Bolton) **Commissioning Male Nurses in the Military.** Senate on July 30 sent to the White House the House-passed authority for

commissioning military male nurses. Approved by Senate Armed Services Committee July 28.

H.R. 7225 (Cooper) **Social Security Amendments.** On July 25 Senator Cotton offered the administration's plan to increase grants for the medical care of the needy aged, blind, disabled and dependent children. If they matched the money dollar for dollar, states could get a maximum U. S. contribution of $3 per month for each child and $6 for each adult. This same legislation is found in Congressman Reed's H.R. 3293 and in Senator Cotton's S.1198.

FIRST NEW H-B PROJECT APPROVED

The first project to be constructed under the new Hill-Burton program has been approved for Pinal County, Florence, Ariz. It is a 53-bed nursing home addition to the Pinal County General Hospital, to be used for nursing and medical care of the aged. It will be physically separated from the hospital, but will use the latter's facilities and personnel. At present, patients who could be cared for in a home of this type are occupying 12% of the beds in the general hospital.

The new Hill-Burton program authorizes aid on a matching basis for the building of chronic disease hospitals, nursing homes, diagnostic and treatment centers and rehabilitation facilities.

Because of the new HB program, the name of the federal headquarters office has been changed from the Division of Hospital Facilities to the Division of Hospital and Medical Facilities.

ATTENTION ALL MEMBERS

We are in receipt of a letter from the Electrical Association of New Orleans, Inc., requesting that we alert our members in calling to their attention "the discarded refrigerator hazard" and asking their cooperation in a "safety campaign" which is being put on in Louisiana by the National Safety Council, the Electrical Association that we alert our members in calling to their at- of New Orleans, Inc., and the National Electrical Manufacturers Association, to save unfortunate children from the fatal accidents involving those who might crawl into discarded refrigerators or ice-boxes.

In August of last year, five in one family—three in another—perished in this manner.

For your information we have in Louisiana, Act No. 75 dated June 23, 1954, which provides for disposition of Discarded Refrigerators and Other Containers and also specifies penalties for violations. Our chief aim, as medical men, is to save lives. Why not support this important safety drive? A million refrigerators and freezers are being discarded annually. "The child you save may be your own."

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MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
Calcasieu	Fourth Tuesday every other month	Lake Charles
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Tangipahoa	Second and fourth Thursdays of every month	Independence
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

ATTENTION! OPHTHALMOLOGISTS

The following resolution was passed at the Annual Business Meeting of the Pennsylvania Academy of Ophthalmology and Otolaryngology, May 21, 1955, Atlantic City, New Jersey.

WHEREAS, the optometrical organizations in the United States of America have openly announced their determination to invade the field of Ophthalmology, and to restrict the Ophthalmologist in his practice; and

WHEREAS, this has actually been accomplished in some states; therefore, be it

RESOLVED: that the Pennsylvania Academy of Ophthalmology and Otolaryngology express its awareness of this problem and recommend that it be brought to the attention of the various

county and state medical organizations and to the appropriate committees of the Eye Section of the American Medical Association.

LAFAYETTE PARISH MEDICAL SOCIETY TO SPONSOR SECOND FOUNDERS DAY SEMINAR

"The Lafayette Parish Medical Society, and The Third District Medical Society will jointly sponsor the Second Founders Day Seminar at the Evangeline Hotel in Lafayette, Louisiana on Saturday, Oct. 1, from 10:00 a.m. until 6:00 p.m. A broad list of speakers representing faculty members of the L.S.U. School of Medicine will discuss this year, subjects of interest to general practitioners and specialist alike. An invitation is extended to members of the medical profession to attend this meeting. There will be no fee.

The program will include the following speakers and their subjects:

Dr. Philip Tiller
Hermones in General Practice;
Dr. Morris Shushan
Liver Disease in Ambulatory Patients;
Dr. Richard Fowler
Congenital Heart Disease;
Dr. Daniel Hayes
Problems in the Control of Diabetes;
Dr. W. R. Akenhead
Gastrointestinal Bleeding;
Dr. Charles Miangolarra
Treatment of Hyperthyroidism;
Dr. Milton McCall
Management of Toxemia of Pregnancy;
Dr. John Adriani
Nerve Block in the Control of Pregnancy;
Dr. George Mellinger
Recent Advances in the Treatment of Prostatic Disease;
Dr. Irving Redler
Recent Advances in the Treatment of Fractures;

A clinico-pathological conference will also be held.

Detailed information may be obtained by writing Arthur A. Stamler, M. D., Secretary-Treasurer, Third District Medical Society, 510 St. Landry St., Lafayette, La."

THE POLIOMYELITIS VACCINATION PROGRAM IN LOUISIANA

The following program has been approved by the Louisiana State Department of Health, and the Louisiana State Medical Society.

The National Foundation for Infantile Paralysis Program for the vaccination of all first and second grade children in Louisiana is nearly complete. The program started April 18, 1955. Provision of vaccine for first inoculations stopped July 7th. All second inoculations are now complete in so far as we were able to do before closure of the schools. Of the 164,910 children eligible for vaccination 132,949 (80.6%) received the first inoculation and 73,312 (59.8%) of those receiving the first inoculation received the second. To give each child who received the first inoculation a chance to receive the second, consideration is being given to extending the time for obtaining the second inoculation under this program to September 30, 1955. All vaccine necessary to complete this program will be made available by N.F.I.P.

Vaccine for commercial use is now becoming available. As the N.F.I.P. program terminates more and more polio vaccine will become available to physicians and public agencies. To avoid rigid government controls a voluntary system of control to assure equitable distribution of vaccine through normal marketing channels is being worked out. To function properly close cooperation and teamwork by the Public Health Service, manufacturers of polio vaccine, retail drug outlets, physicians, the State and local Medical Societies, and the State Department of Health is essential.

A National Advisory Committee on Poliomyelitis Vaccine has been established. A State Advisory Committee composed of four representatives of the State Medical Society and four physician representatives of the State Department of Health has been formed and is functioning. The representatives of the State Society are Drs. Philip H. Jones, W. E. Barker, Max Miller and C. Grenes Cole; of the State Department of Health, George H. Hauser, Ben Freedman, Andrew Hedmeg and J. D. Martin.

The State Department of Health is charged with the responsibility of assuring an equitable distribution of vaccine to all the parishes of the State.

The State Medical Society and the State Polio Vaccine Advisory Committee recommend the activation of Parish Society Gamma Globulin Committees so that their experience with the intra-parish distribution of Gamma Globulin can now be used to advantage in the intra-parish distribution of polio vaccine.

The National Advisory Committee on Poliomyelitis Vaccine will from time to time designate a specific priority group to receive the vaccine. Only persons in this designated group are to be vaccinated. For the present the 5-9 year age group and pregnant mothers are the only groups to receive vaccine. As further priority groups are established this Journal will carry the information.

The objective of this Voluntary Distribution Plan is to assure that vaccine is distributed to all areas of the State in such a manner that it is available to all persons in the priority group designated. Unless this is accomplished, legitimate criticism of our State and the National plan for the voluntary distribution and use of the vaccine may be expected.

The voluntary plan is based on the assurance that physicians will conform to the general principles and policies established by the National Advisory Committee on Poliomyelitis Vaccine and the State Advisory group.

The manufacturers will keep the State Department of Health posted on all vaccine shipped into Louisiana. Vaccine distributed by retail druggists or invoiced to physicians through retail druggists will be made known to the State Department of Health by weekly reports from the druggists. This vaccine usage will be charged against the total amount of vaccine allocated to a particular parish. When the parish's allocation is used no further vaccine will be available to that parish. Should questions arise concerning the distribution and usage of vaccine, they may be referred to the State Poliomyelitis Vaccine Advisory Committee care of the State Medical Society or the State Department of Health.

Louisiana has 293,688 children in the age group 5-9 years. Each Parish Health Unit and each local poliomyelitis vaccine committee will be apprised of the number of eligible children for the parish of their jurisdiction.

Physicians are urged to keep complete information on each person immunized. This data is essential to an evaluation of the program progress, the efficacy of the vaccine, and for epidemiological purposes should the efficacy or the safety of the vaccine be questioned. Each immunized persons record should show the person's name, age, sex, color, address of residence, name of manufacturer and lot number of vaccine, sites and dates of inoculations and any reactions.

Physicians should immediately report by telephone to the Parish Health Unit or the State Department of Health any unusual occurrence of disease which might be related to the vaccination program.

Vaccination consists of three inoculations of vaccine, each given intramuscularly in 1.0 ml (1.0 cc) amounts. The second dose should be given 2-6 weeks after the first dose, and the third dose about seven months after the first, preferably just before the polio season starts. To avoid administration during the polio season, the State Poliomyelitis Advisory Committee suggests that previously non-vaccinated persons receive the first inoculation in October and that subsequent inoculations follow the suggested schedule except that where possible the third or booster inoculation be given before June 1st.

In areas of high prevalence of poliomyelitis primary inoculations should be avoided because of the existence of individuals who may be in the incubation stage of poliomyelitis. The second dose of vaccine should be administered however if the first has already been given as this will enhance the protection afforded by the first.

It is possible that children who received the first injection of vaccine under the N.F.I.P. program but who have not received the second may ask physicians to give them the second injection. In these instances the physician may obtain information concerning the prior poliomyelitis vaccine experience of the child from the local health unit.

At this time the Public Health Service has been advised by the State Board of Health to instruct the manufacturers that all poliomyelitis vaccine allocated to Louisiana is to be shipped through normal commercial channels for use by physicians; subject to change as the program develops.

AMERICAN COLLEGE OF CHEST PHYSICIANS AWARDS FELLOWSHIP CERTIFICATES

The annual Convocation of the American College of Chest Physicians was held in Atlantic City, New Jersey, on June 4, during the 21st Annual Meeting of the society. Certificates of Fellowship were awarded to 251 members from 42 states, the District of Columbia, 5 provinces of Canada, and Brazil, India, Korea, and the Philippines.

The following physicians from Louisiana received their Fellowship Certificates: Howard A. Buechner, New Orleans; Dwight S. Danburg, Greenwell Springs; Harry B. Greenberg, New Orleans.

ANNOUNCEMENT OF THE VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held at the Drake Hotel, Chicago, Illinois, May 3, 4 and 5, 1956, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced should be sent to the Secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany, New York, not later than January 1, 1956. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for the presentation of the winning essay by the author if it is possible for him to attend. The essay will be published in the annual proceedings of the Association.

NEW A.M.A. DRUG EVALUATION PROGRAM OUTLINED

A new program to give physicians timely information on the usefulness and safety of new drugs was announced today by the Council on

Pharmacy and Chemistry of the American Medical Association.

The council's announcement, in the July 30 Journal of the American Medical Association, is the first in a series by A.M.A. councils on programs inaugurated to replace various "seal-acceptance" activities discontinued in February.

The council will examine available published and unpublished evidence relating to the actions, uses, dosages, hazards, and other properties of drugs. It will not conduct clinical and laboratory tests. Reports of these evaluations will be published for the information of the medical profession.

ROUTINE PROCTOSCOPY

Routine examination of the colon and rectum as a part of every complete physical examination of every adult patient in order to find tumors before symptoms develop and malignant degeneration occurs is recommended by Dr. Neil W. Swinton in the Lahey Clinic number of **Surgical Clinics of North America,** (**35**:833 (June) 1955).

Technical improvements in enema preparations, which are now available in disposable polyethylene containers, have facilitated the preparation of patients for sigmoidoscopy, writes Dr. Swinton.

"These have made it possible for us to give cleansing enemas satisfactorily with a minimum of time and equipment," he says. "We have used these disposable units for several thousand patients and we have found them as effective, or more so, than soapsuds enemas." The preparation of patients who give themselves an enema at home is described as unsatisfactory.

Polyps are found in approximately 5 percent of patients, regardless of symptomatology, who are examined by sigmoidoscope at Lahey Clinic, the author states.

SCIENTISTS REPORT UNIQUE EPIDEMIC

A unique epidemic was reported in the June 25 Journal of the American Medical Association.

Four Duke University scientists described an epidemic of North American blastomycosis, a fungus disease limited to the United States and Canada. It occurred in 1953-54 in a four-mile area centering around the town of Grifton in Pitt County, N. C.

The disease, rarely diagnosed two decades ago except in a few medical centers, may occur in the Midwest, Ohio River Valley, and the southeastern United States, which are areas where some cases have occurred. The report was made in order to alert physicians and public health workers in those areas.

No cause for the epidemic has been found, but the scientists hope a study of the Grifton area and population may provide a clue to the method of disease spread.

Eleven cases of North American blastomycosis were admitted to Duke University Hospital within a few months. All patients lived either in Grifton or within a four-mile radius of the town.

The occurrence of 11 cases within a few months in a small area can be considered as "epidemic" since it was a sudden increase in contrast with the record of 14 cases scattered over the past 16 years through the much larger area of Pitt County and seven adjacent counties, the scientists said.

THE IMPORTANCE OF THE SMALL HOSPITAL

The hospital with 100 beds or less is the backbone of our nation's hospital care, according to an article by Ray E. Brown, superintendent of the University of Chicago Clinics and president-elect of the American Hospital Association. He is the author of an article, "Importance of Small Hospitals to the Nation," published in the July issue of HOSPITALS, the Journal of the American Hospital Association.

In stressing the importance of small hospitals to the nation, he pointed out that of the 5,212 general and short term hospitals listed in 1954, 3,533 are small hospitals. These hospitals, he said, admit 5.5 million patients a year and record 836,500 births annually.

PHYSICIAN DOUBTS EXISTENCE OF "ULCER PERSONALITY"

Doubt as to "the nature or even the existence of a specific ulcer personality" was expressed today by a Cleveland physician.

It has become common in the last few years for doctors and the public to refer to certain persons as being of the "ulcer type." Articles and even a book have been written on the subject.

Yet investigators cannot agree on what goes to make up the "peptic ulcer personality," Dr. Harold P. Roth said in the July Archives of Internal Medicine, published by the American Medical Association.

He found that a number of different personalities were described as typical in various studies on the topic. "There was no whole personality or feature of personality that was agreed upon by as many as a third of the investigators," he said.

Personality traits most frequently mentioned were drive, conscientiousness, and anxiety. "Although other traits were described, the statements about most of them were contradictory," he said.

SELF-HELP DEVICES FOR ARTHRITIS

The past few years have focused attention on the importance of self-help devices for the arthritic in enabling him to meet the demands of daily living. As a result, the National Office of the Arthritis and Rhematism Foundation has ap-

propriated a grant to implement a central office for the collection, evaluation, development, and dissemination of information concerning self-help devices for the arthritic. The office, located in the Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center will be under the direction of Dr. Edward W. Lowman, clinical director of the Institute and of clinical physical medicine and rehabilitation. Miss Muriel Zimmerman, O.T.R., will be consultant.

The primary purpose of the Arthritis Self-Help Device Office is to provide, without cost, information on the latest self-help devices developed as well as offering free consultation to arthritic patients by mail, telephone, or through personal interview.

In addition, patients or physicians who have developed self-help devices are urged to submit them for testing and evaluation so that they may be made known to other patients.

The Arthritis Self-Help Device Office may be reached on Mondays and Wednesdays between 9:00 a.m. and 5:00 p.m. Telephone MUrray Hill 6-1842, ext. 85. Address mail to the Institute of Physical Medicine and Rehabilitation, 400 East 34th Street, New York 16, New York.

A.M.A. COMMITTEE RECOMMENDS ASPIRIN BOX WARNING

All packages containing aspirin or other salicylate compounds should bear a clear warning, "keep out of the reach of children," according to the Committee on Toxicology of the American Medical Association.

Pointing out that oil of wintergreen and aspirin are forms of salicylates most often involved in childhood poisonings, a report adopted by the committee also recommended:

That the label should state "Consult your physician on dosage for children under three years of age."

That individual pills be wrapped in metal or plastic foil that cannot be easily removed by children, or that the container have a top which closes automatically.

FACTS ABOUT CANCER DETECTION

1. Each year more than 33,000 Americans die from cancer in "ten neglected inches of the body (large bowel, including colon and rectum). In 1952 the death toll was 33,184 people.

2. Cancer specialists agree that early detection is the key to control. For detection of 75 per cent of cancers of this type, they recommend examination by an instrument called the sigmoidoscope. Three out of four of all malignant and potentially malignant lesions fall within its 10-inch range.

3. Thus, of the 33,814 people who died in 1952, 25,360 had cancer which could have been detected by the sigmoidoscope. If they had been examined soon enough—in the pre-cancerous or early cancer stage—a large percentage could have been saved.

4. A major obstacle to carrying out this life-saving cancer-detection procedure is the inconvenience in readying patients. Few clinics have facilities for elaborate and time-consuming preparations. When patients are given instructions for preparations at home, more than half do not carry out the instructions properly. A satisfactory examination depends largely on effective colonic cleansing of the patient.

5. A new method has been developed by which patients can be prepared in a few minutes at the clinic or in the doctor's office. A disposable enema unit (Fleet Enema Disposable Unit) does away with cumbersome, long-drawn-out procedures. It avoids the danger of a spasm which may prevent the passage of the sigmoidoscope, as it contains sodium phosphate which relaxes spasms in sigmoidoscopy.

ADEQUATE SANITATION CAN CONTROL FLY PROBLEM

Although fly swatters and DDT may be ineffective in controlling flies, "there isn't the slightest need to permit this public health menace to continue in American cities and towns," according to the health educator of the Los Angeles County Health Department.

Writing in the July Today's Health, published by the American Medical Association, Edward R. Reinig, M.P.H., called for communities and individuals to clean up fly breeding grounds, thus eliminating "one of the greatest disease carriers in history."

Flies have been considered pests since the days of Moses. They have spread typhoid, dysentery, cholera, and other serious maladies.

Methods of combating them have included fly swatters, flypaper, screening, and, finally, during World War II the insecticide DDT. But in 1947 came the news that flies had "met the challenge" by developing a resistance to DDT and other insecticides.

ARMY IMPROVES INSERTS FOR HEARING AIDS

Army researchers have developed a soft plastic ear insert which should be a big improvement in hearing aids, radio receiver headsets, and as a protection against excessive noise.

Major James P. Albrite, director of the audiology and speech correction center at Walter Reed Army Medical Center, Washington, D. C., described the new earpiece in the February Archives of Otolaryngology, published by the American Medical Association.

He said that while the ear insert is not commercially available yet, it "undoubtedly would find wide acceptance by the thousands of hearing aid users." He said it even might be used as protection against infection and pressure which trouble persons in underwater activities.

The soft plasticized material is poured into a cast made from a mold of the ear and its inner canal; then it is stamped with a sound channel and recess for a receiver. The whole process takes about two-and-one-half hours and causes no discomfort to the patient. About 1,300 inserts have been issued at the center and patients reported they are comfortable to wear.

BOOK REVIEWS

Manic-Depressive Disease; by John D. Campbell, M. D., Philadelphia, J. B. Lippincott Company, 1953, Pp. 403, Price $6.75.

This volume is an attempt to discuss the diagnosis and treatment of a condition whose early manifestations frequently are overlooked by nonpsychiatric physicians. From a diagnostic viewpoint it is excellent in enabling one to recognize the disease early in its course. From a therapeutic outlook it does suffer from the author's obviously biased physiological viewpoint. Dr. Campbell views manic-depressive disease as a physiological disturbance in the autonomic nervous system. He maintains that a physiological disturbance is causative and the environmental factors only precipitate the illness. He apparently gives little credit to the effects of the emotions upon the autonomic nervous system.

Psychoanalytical tenets are overlooked, and emphasis is placed on the physical therapy of the illness. He does recognize the relative ineffectuality of physical therapy preventing exacerbations but cites as effective therapy such techniques as explanation of significant symptoms, environmental manipulation, the combatting of conscientiousness, psychotherapy of an obvious nature, advice to the family and friends, rest and relaxation, occupational therapy, bibliotherapy, and drugs.

GENE L. USDIN, M. D.

Fluoroscopy in Diagnostic Roentgenology; by Otto Deutschberger, M. D., Philadelphia, Pa., W. B. Saunders Company, 1955, Pp. 771, Price $22.00.

Most of the rather extensive literature on diagnostic roentgenology is based upon the radiographic method. Very little information pertaining to fluoroscopy is available and that which is at hand is incomplete. In spite of the fact that fluoroscopy requires training and experience there is an increase in the number of physicians, who are not radiologists, who are adding fluoroscopic equipment to their offices. Many errors occur in their attempts to obtain information by means of this method. Proper guidance is essential and should be of inestimable value to these nonradiologists.

This volume is an accurate and complete presentation of the subject of fluoroscopy. The indications and limitations of this method are considered. The correlation of this method with radiographic procedures in differential diagnosis is discussed fully.

The book is divided into two parts. Part One includes chapters on the development of fluoroscopy, fluoroscopic equipment, the conventional fluoroscopic image, the electronically amplified fluoroscopic image, physical and clinical evaluation of the fluoroscopic image, the hazards of fluoroscopy and foreign bodies and their localization. The chapter on the hazards of fluoroscopy should be read by all individuals who have contact with this method of examination.

Part Two deals with fluoroscopy of specific organs and anatomic tracts. This is subdivided into chapters covering the head, neck, chest, abdomen and extremities. The appendix includes suggested forms for recording the data of various fluoroscopic examination.

The bibliography consists of many carefully selected references at the end of each chapter. The illustrations are unretouched positive prints. This was done intentionally to show images as they actually appear on the fluorescent screen.

This volume has been written as a reference book as well as a text book. Considerable detail is included and the text is clear and concise. It should prove a valuable addition to the library of every physician who uses fluoroscopy in any form and a necessity to the roentgenologist.

J. N. ANÉ, M. D.

PUBLICATIONS RECEIVED

W. B. Saunders Company, Phila.: Clinical Biochemistry, by Abraham Cantarow, M.D., and Max Trumper, Ph.D. (5th edit.).

Charles C Thomas, Publisher, Springfield, Ill.: The Pathogenesis of Poliomyelitis, by Harold K. Faber, M.D.; Selection of Anesthesia: The Physiological and Pharmacological Basis, by John Adriani, M.D.; Radiographic Atlas of Skeletal Development of the Knee: A Standard of Reference, by S. Idell Pyle, Ph.D., and Normand L. Hoerr, Ph.D.; Atlas of Roentgen Anatomy of the Skull, by Lewis E. Etter, B.S., M.D.; Surgical Physiology of the Adrenal Cortex, by James D. Hardy, M.D.